NATIONAL PETROLEUM NEWS

Vol. XVII Cleveland, Ohio, December 16, 1925 No. 50

New Bill Menaces Discovery Depletion Allowance to Oil Producers

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THE oil producing industry of the country must immediately give its attention to the proposed revision of the federal tax law, as it affects the allowance for discovery depletion in oil wells in new territory, and be prepared to fight the matter out on the floor of the Senate within the next few weeks, if it is not to see development operations in unproven acreage severely handicapped.

Not only is the proposed change in the revenue bill for 1926, as reported out by the ways and means committee of the house within the last few days, much more drastic in defining what is a discovery well, upon which depletion will be allowed; but, if the internal revenue department and Senator Couzens have their way, there will be an attempt to strike out the discovery depletion allowance entirely.

This would put the oil producing business on the same plane as any business enterprise and recognize nothing of the undue hazards it experiences in the search for new oil.

If this latter condition should come about, we would have the sorry spectacle of exploration of possible new oil territory greatly handicapped, at the time when the public is in need of new oil fields to augment the decline in present producing areas, and a probable increase in price that would far more than offset any gains through increased taxes paid by oil producing companies to the federal government.

The proposed change in the tax bill in a nutshell, applies to discovery wells claimed after Jan. 1, 1925. Under the old law the owner of an oil lease in unproven territory could drill a well and set up discovery depletion upon his property, if it was overlapped in part by the area proven by an original discovery well on an adjoining tract, provided, of course, that his property was acquired prior to the bringing in of the original discovery well.

Under the present bill, on the same piece of property, the owner may not drill a well and claim discovery depletion upon his lease. The law assumes his lease was also proven by the original discovery well and he can claim only cost depletion allowed on proven property, the same as on any kind of business.

The bill does provide, however, that the owner of an unproven lease, if he contributes to the drilling of a well on an adjoining lease which well comes in as a producer and proves a 160-acre tract part of which is on his property, is entitled upon drilling a well to claim discovery depletion on his tract. While this feature is designed to lessen the rigor of the amended discovery depletion clause, it is hard to see where this is so great a benefit, because the operators who can contribute to the cost of an original discovery well, will be only a small part of those holding leases in the territory because their leases must all be upon the 160-acre tract which the original discovery well proves.

As the trend of production widens out from the original well, new wells would be for the most part on some part of the 160-acre tracts already proved by preceding wells. They would not be original discovery wells and contributions to drilling such tests would not entitle the contributing operators to discovery depletion allowance.

On top of this it is up to the internal revenue department, by regulations, to show what is to be considered a contribution to the cost of drilling the original discovery well. Obviously it is going to be a fair percentage of the cost of drilling the well. On a well say costing as little as $40,000, the small operator could not be a contributing factor in many such tests in an effort to protect his depletion allowance.

So much for an outline of what the new bill proposes. Much more is involved in the coming fight before congress, however, than merely consideration of the merits, or lack of merits, in the new bill.

What the Real Fight Is

On this pending measure the whole producing industry is made a party to the fight Senator Couzens launched on tax returns of big oil companies, and other big industrial concerns, primarily in an effort to discredit Secretary of the Treasury Mellon.

It is very likely that the amendment pertaining to the discovery depletion allowance, which was slipped into the bill the day before it was reported out by the house committee, was put there as a result of the demoralization in the revenue department Senator Couzens' tactics have brought about.

While the charges the senator made concerning the Gulf Oil Corp., Sinclair Consolidated Oil Corp., and the Standard Oil Co. of California revert back to the early period of the law, when there was much confusion as to its interpretation, the senator's cohorts infer that these alleged irregularities resulted under interpretations of the present law. The personnel of the revenue department has been affected by his manner of meddling in their work. It is believed the present amendment is to protect the department through their proposing a

Text of Proposed Amendment to Revenue Bill for 1926. Paragraph 2 under C of Section 204, Limiting Discovery Depletion Allowances:

"(2) *In the case of oil and gas wells discovered by the taxpayer on or after Jan.* 1, 1925, *in an area not proven at the date of such discovery, where the fair market value of the property is materially disproportionate to the cost, the basis for depletion shall be the fair market value at the date of discovery or within* 30 *days thereafter of the property proven by such discovery and included within the taxpayer's tracts or leases. In the case of oil or gas wells, each well producing oil or gas in commercial quantities shall be considered as having proven at least that portion of the productive sand zone or reservoir which is included in a square surface area of* 160 *acres having as its center the mouth of such well. In the case of the discovery of an oil or gas well by a person under an agreement whereby the cost of the well shall be shared with one or more other persons or whereby the cost of the well shall, if oil or gas in commercial quantities is not found, be shared with such other person or persons, then such well shall not be considered as having proven any part of a tract or lease held by such other person or persons.*"

change in a law which is under attack, even though unfairly.

The publicity put forth the last few days regarding the tax affairs of these three companies was done, it is believed, to affect the mind of congress in the fight Couzens will make to do away entirely with the discovery depletion allowance.

Only Showed One Side

The manner in which this publicity was put forward shows the unfairness of Senator Couzens' methods. What was made so much of by the newspapers was not a report of the senator's select committee investigating tax matters, even. It was simply a statement taken by his publicity department from the testimony presented before the committee of only those witnesses who were fighting the oil companies' tax returns. The testimony of the oil company auditors was utterly disregarded in putting the statement out. The basis of Senator Couzens' entire campaign is charges made by disgruntled former employes of the revenue department.

But, regardless of the nature of the fight, the oil producing industry stands to be the party most seriously injured, unless the industry as a unit supports the work already started to see that its side is adequately presented at the hearings on the bill before the senate, which will likely come up early in January.

President W. N. Davis, of the Mid-Continent Oil & Gas Association, and Secretary Harry H. Smith, of the same organization, both of whom have devoted a great deal of time and energy to having the depletion discovery allowance put into the tax bill, and also later in keeping it there, have already organized local committees in the Mid-Continent and Rocky Mountain oil producing districts.

These committees will study the depletion provision and analyze it and suggest criticisms or substitutes. Individual operators should lend them every support, by interpreting and familiarizing themselves with the new bill as it applies to their own particular operations and making known to the committees their thought on the matter. On their own initiative they should put their views concerning the bill before their own congressmen.

With such a complicated proposition as the whole question of depletion allowance, it will probably be deemed unwise to attack it in the house, but the fight will be staged before the senate.

Its Limiting Provisions

It is estimated that not more than 25 per cent of the wells upon which discovery depletion is now allowed, would enjoy this benefit under the new bill without the contributing fund feature, and not more than 50 per cent with that feature incorporated.

The revenue department has reported that over 8000 oil discovery depletion claims were allowed the oil industry for the period from 1913 to 1924. During this same period something like 225,000 wells were drilled, the discovery claims constituting only a little over 3 per cent of the total wells drilled. Of the total wells drilled, 65,000 were dry holes, or more than 8 times the number of depletion claims.

Senator Couzens' committee has made much of the fact discovery depletion allowances to the oil industry amount to nearly $300,000,000 annually. However, the annual cost of dry holes is something over $100,000,000, many times the tax upon $300,000,000, which dry hole loss the depletion allowance is supposed to offset, in part at least.

The discovery depletion allowance has been in the tax law for eight years, being founded for the purpose of recognizing the hazards of the oil producing business. From time to time it has been defined and limited by regulations or amendments. There are at present no abuses such as Senator Couzens attempts to point out in cases arising immediately after the law was enacted. Those earlier abuses were ended by the 50 per cent provision put in the 1924 law, which provides the oil producer cannot claim discovery depletion of more than 50 per cent of the net income from the property upon which the discovery was made, which would offset a high discovery depletion allowance during a year, for example, of low crude prices.

The present bill is considered as destroying the universality of application of the depletion allowance to all developers of new oil properties, as distinguished from purchasers of proven or producing properties. Hazard and risk in the oil producing business is extreme and operators find it necessary to set aside, out of profits of successful properties, replacement funds, with which to explore and define new properties.

It is likely to disrupt development of new oil properties and force the opening of new structures by attempts of operators to get the first well down in order to claim depletion allowance for themselves.

Coming Meetings

American Petroleum Institute, Hotel Biltmore, Los Angeles, Jan. 19, 20, 21.

Michigan Independent Oil Men's Association, Detroit, Mich., Jan. 21, 22.

Western Petroleum Refiners Association, Texas Hotel, Fort Worth, Tex., March 2, 3, 4.

Seminole County Test May Open New Pool

TULSA, Dec. 12.—Possibility of a new producing field in Seminole county, similar to those already developed at Cromwell and Wewoka, is seen in the showing found in a wildcat well near the town of Earlsboro, and more than 20 miles from any present field. The well making this showing is the Morgan & Flynn No. 1 Ingram, in the NWc NW SE of 10-9-5. At last reports the well was "slopping over" with oil, and had made one 70-barrel flow. It has been the most interesting development of the past week in Oklahoma.

The well had lime at 3557 feet, and an oil sand at 3660 to 3667 feet, which is its total depth. It made only about a quarter-million cubic feet of gas, but it is of course possible that further drilling into the sand will result in an increase in the gas as well as in the oil. The oil tests 40.7 degrees gravity, according to reports. Identity of the oil sand has not been determined, but it may be the same as that producing at Cromwell.

This well is a real wildcat and, if it results in the bringing in of a new field, will open up a large territory for testing. It lies about 22 miles northwest of Wewoka and about the same distance southwest of Cromwell, the three forming a triangle. The well is also about 32 miles due south of Davenport, where an active Wilcox sand field is in process of development. The Prairie Pipe Line Co. has a line two miles away from the well, and it is probable that that company will lay the necessary line to connect to it. The well will not be drilled deeper until pipe line connections or other market facilities have been provided.

Unfairness is Charged to Couzens Committee on Tax Testimony

Staff Special

WASHINGTON, Dec. 14

UNFAIRNESS to the oil industry and an effort at disparagement is seen by many observers in the transcript of testimony given out for publication, Dec. 11, by the Couzens committee of the senate which has been investigating the administration of the Internal Revenue Bureau under Secretary of the Treasury Andrew W. Mellon. This publication of testimony, aiming to show favoritism by allowing large oil corporations to evade lawful income tax assessments or to delay payment of income taxes, comprises the latest chapter in the Mellon-Couzens feud which has been fought for more than two years.

Misunderstanding of accounting practices of oil companies concerning the valuation of producing properties and depletion allowance, is indicated in the testimony of the Couzens committee's investigators, competent observers point out, and interpretations of the testimony by the same investigators are misleading.

How Senator Couzens induced newspapers to publish the sort of reports that appeared on Dec. 11, is not known. It is believed to be a moral certainty that newspaper men did not go over two 300-page volumes of testimony taken by the committee.

Heavy Losses Alleged

L. C. Manson, lawyer, A. H. Fay, consulting engineer, and L. H. Parker, chief engineer, all employes of the Couzens committee, charged that the government lost $4,590,385 in taxes from the Gulf Oil Co. and its subsidiaries from 1915 to 1919 at the time Mr. Mellon held a large interest in them.

Those committee employes charged that Internal Revenue Commissioner Blair and the solicitor for the Internal Revenue Bureau were defied by subordinates of theirs in efforts to settle the tax case of the Standard Oil Co. of California involving $3,378,000 in taxes directly and $25,000,000 indirectly.

That the Sinclair Consolidated Oil Corp. had been able to obtain delay after delay in the settlement of its tax cases with the result that the question of its taxes for 1916 had not yet been closed.

That the before mentioned employes of the Couzens committee had charged that the tax cases of S. G. Kennedy and T. A. Springer, who made a profit of $6.000,000 on the sale of Oklahoma oil lands in 1916, were "kicked around from pillar to post until the statute of limitations ran and no tax was assessed against that profit.

All the testimony summarized in the preceding charges, together with much more of like character, is contained in the two volumes. It was taken in secret last spring by a committee composed of two Republican senators, two Democrats and Senator Couzens, who calls himself a Republican but who, most of the time, has been voting with the admitted opponents of that party, although he has not been definitely identified with the LaFollette party.

Summaries Are Similar

The two volumes were laid before the Senate Dec. 10. The next morning summaries of some of the testimony appeared in the newspapers. Every one of them referred to "huge losses" sustained by the government at the hands of oil companies and buyers and sellers of oil properties.

It would have been physically impossible for any one not fully advised what and where to look for a particular thing, to have made an abstract of the two volumes in the time from the submission of the report to the appearance of the newspaper reports, insinuating that the oil companies had been able fraudulently to avoid paying the taxes due the government.

An Innocent Bystander

The fact, known to every well informed man in Washington, is that, in this instance, the oil industry as an innocent bystander is being kicked in the face in a political, if not personal fight between Senator Couzens and Secretary Mellon. Some would say it was a purely personal, private fight, started by Couzens and in the course of which Secretary Mellon has been insinuatingly represented as a bootlegger and general crook by the senator from Michigan. Mr. Mellon has retaliated by showing that Couzens, who has made many millions because among other things he furnished $30,000 or $40,000 for Henry Ford, has invested his money in tax free securities so that his taxes amount to but a comparatively few thousands, while Mellon has put his money into productive enterprises to such an extent that he pays nearly $2,000,000 a year in income taxes.

The newspaper reports, in their summary, did not set forth that every charge by the employes of Couzens' committee, was stoutly denied and explained by A. W. Gregg, solicitor for the Internal Revenue Bureau. Yet that is the fact. The Couzens committee, however, was not interested in allowing the public to know that in an emphatic way.

Wanted Clear Slate

When Mellon knew he was to become secretary of the treasury, he urged the Treasury Department to settle all the tax cases in which he had a personal interest so that he might come into office without being personally interested in anything pending.

Taxes to be paid by the Gulf Oil Co. on wells were pending. They had been slow in handling for two major reasons: The first is that, for income tax purposes, every man in the country has to keep accounts differing from any accounts ever kept by him prior to the imposition of income taxes. The books of every oil producing company had to be rewritten; that is to say, items that theretofore lumped together, at the autocratic behest of government bookkeeper, had to be separated. The second was that valuing an oil well for income taxes was a new business.

The Gulf, in an effort to get its case disposed of before Mellon went into office, employed a firm of expert accountants to make up the books and returns in the form the government desired them.

The Gregg Testimony

According to the testimony of A. W. Gregg, not mentioned in the newspaper summary, accountants for the government were at the elbows of the accountants employed by the Gulf and checked their work as it went along. Therefore when the income affairs of the Gulf got to the treasury, late in 1920 and early in 1921, the office force in Washington knew that the accounts had been checked and that they had only the minimum of work to do on them. In that way the Gulf's tax case for 1915-1919

Tax Evasion Not Involved, Says S. O. California

CLEVELAND, Dec. 14

K. R. KINGSBURY, president of the Standard Oil Co. of California, referring to the press dispatches concerning his company, made this statement to National Petroleum News:

"Standard Oil Co. of California for the years 1918, 1919, and 1920 made an overpayment of taxes, and is entitled to refund for such overpayment. The amount of such refund is depending on whether or not the company is permitted, in accordance with an option under the regulations of the internal revenue department, to change its system of accounts by charging its development cost during the years in question to expense rather than to capital. Such practice in accounting is not unusual with oil companies. No question of tax evasion is involved but, on the contrary, whichever way the question pending in the department is decided, the company will be entitled to a refund."

was settled before Mellon came in. The company got a refund of $3,996,080.18 out of a total payment of $10,320,446.36.

The engineers of the committee now claim that that refund should not have been made but that on the contrary, the company should have been required to pay $594,305.43 more. That is how they arrive at the conclusion that the government "lost" $4,590,385.61 at the hands of the Gulf company. Eighteen months after the settlement the case was "closed" under section No. 1312, unless fraud should be disclosed. That is to say after 18 months of opportunity to find mistakes, the government said it could not and that therefore it would give the Gulf a clean bill of health which should stand against everything except fraud.

The Couzens committee employes, however, do not allege fraud. They merely set up their judgment against that of the government engineers and lawyers. There is no evidence that they forget, for a minute, that Senator Couzens, their boss, has been trying to get the scalp of Secretary Mellon.

The committee also fails to mention some pertinent facts that have been primary causes in the delay in settlement of oil company tax cases. One of these facts has been the impossibility of oil company representatives to get a hearing in the oil section of the Internal Revenue Bureau. It is well known that some representatives have been months around Washington before getting a hearing while government adjusters and checkers have been acquainting themselves with their work.

The turnover in the revenue bureau has been heavy because many government employes after getting acquainted with income tax procedure have left the bureau to become consultants. When the places of those who left were filled, the newcomers have had to spend weeks and even months in getting the "hang" of affairs. The condition has been fairly common and has caused a great many delays in getting action.

Many of the newcomers knew nothing of oil property valuation and first had to acquaint themselves with the elements of oil well appraisal and oil company accounting before they could go ahead. This is a condition that neither Secretary Mellon nor the oil companies can help.

The committee employes made a great ado over the fact that in the cases of E. R. Black and George A. Simon of Okmulgee the Internal Revenue Bureau made radically different estimates of value of the same oil from the same well. The answer is that one value was set first one time and the other later.

All the cases, other than the Gulf, are still open and the subject of fighting between the taxpayer and the government. But the Couzens committee employes cite them to show that Mellon's Internal Revenue Bureau is composed either of blockheads or crooks. How soon the Couzens committee will make a report on the testimony taken is not known.

Internal Revenue Commissioner Blair took notice of the newspaper summaries of the testimony of the Couzens committee employes. So did the American Mining Congress, in session here at the time they came out. The latter denounced the secret investigations that Couzens was holding at which, it pointed out, no representative of the interest subjected to attack by the irresponsible committee employes was allowed to be present or to defend them.

The congress declared the mining industry, which, of course, includes the oil industry, was being subjected to unjust public attack and suspicion "consequent upon secret proceedings before the Senate Committee on Investigation of the Bureau of Internal Revenue" that being the formal name of the Couzens committee. The industry, the Congress said, was not offered an opportunity to present facts.

Commissioner Blair, noting the inference that might be drawn from the allegations about the Gulf case being hurried through, said he merely desired to point out that the case was settled before Mr. Mellon became secretary and "before he could have exercised any influence over the bureau."

Oil Marketing in Florida and the New South

FLORIDA! A Magic Name and an Unfailing Subject of Conversation Throughout the United States!

SELDOM has anything gripped the country as has the Florida boom of the last twelve months.

"How about the gasoline and oil business in Florida?" Is a question that is asked wherever oil men gather. To get a first hand view of how gasoline and oil distribution is handled, and a vision of future expansion, National Petroleum News sent one of its staff writers, Roger B. Stafford, to this modern fairyland.

He interviewed the leaders in the oil industry in that and other states of the New South; he learned how they were caring for the increased business; the problems they face, and the ways they were meeting perplexing conditions—their growing pains.

The first of a series of articles by Mr. Stafford, a composite picture of the industrial south, will appear in National Petroleum News for Dec. 23. Following that will be an article on gasoline and oil distribution in Florida. Subsequent articles will describe operations of oil companies in other parts of the southeastern states.

Evaporation Losses of Gasoline At Refineries; Their Causes

By Ludwig Schmidt

Associate Petroleum Engineer, U. S. Bureau of Mines

[In Cooperation with the State of Oklahoma]

Part 1

THE evaporation losses of gasoline in the refinery, can be reduced by proper methods of refinery construction and operation. When gasoline evaporates slowly, as when stored in tanks that are not vapor tight, the most volatile part evaporates first, so that the remaining liquid is not only less in volume, but is also lower in quality. In some cases evaporation changes the characteristics of the product so much that it must be reblended to meet trade specifications.

Refiners are, therefore, greatly interested in the various appliances and methods used to reduce these losses. In the past this interest has been directed largely to storage tanks, probably because evaporation from tanks is more readily observed than losses during other refinery operations.

As tests by the Bureau of Mines[2] on evaporation of gasoline from small storage tanks, had indicated that the losses during the various stages of refining might be equal to or greater than those of standing storage, a survey was conducted during the spring and early summer months of 1924 in a large number of refineries in the Mid-Continent field. In order to enable the refiner to select the results of those tests that conform most nearly to the conditions that he has to meet, tests were conducted at various stages of refining, as follows: (1) Run-down tanks, (2) treating (agitators), (3) filling tank cars, (4) storage of refined products, and (5) miscellaneous handling. The results are presented in this paper.

Losses in Run-down Tanks

Evaporation from run-down tanks that are not gas-tight depends on several factors, the first of which is the temperature of the gasoline as it comes from the condenser. The temperature of gasoline at the look-box may be above 100° F., and temperatures of 90° to 100° F. are common in summer in Mid-Continent refineries. Since these high temperatures are often just below the initial boiling point of the gasoline, the vapor pressure is high and the rate of evaporation is greatly accelerated.

A second factor which influences the rate of evaporation is the entrance of tail gases into the run-down tank. Frequently the vapor above the gasoline in the tank is at a higher temperature than is the vapor at the look-box, and sometimes the temperature of the gasoline in the tank is also above the temperature at the look-box. If tail gases are allowed to flow through the run-down line and into the run-down tank with the gasoline, their temperature is increased. Therefore, they will carry away more gasoline vapor than if they were removed at the look-box. If, in addition, these gases are allowed to bubble up through the gasoline they probably will carry away entrained liquid. The effect is similar to pumping a current of air into the run-down line.

A third factor is the type of connection of the run-down line into the run-down tank. If the line so enters the tank that the gasoline is discharged as a spray, much gasoline is carried out as entrained liquid by air and gas circulation.

Another factor is the run-down line itself. Evaporation losses will be reduced by painting these lines a light color to lessen heat absorption. This factor is of importance in long run-down lines during the hot summer months. In several instances, the temperature of the stream entering the tank was found to be 4 or 5° F. higher than that of the stream at the look-box.

The same factors govern the rate of evaporation from run-down tanks as from other types of tankage. Many refineries are losing a good percentage of their profits by continued use of tanks that are not vapor-tight. Although most run-down tanks are of all-riveted steel construction, many of them have vapor leaks. The roof plates are sometimes so light that the roof seams can not be calked properly; and in some tanks no provision is made for calking the connection between the roof plates and the top angle.

This is of considerable importance in "vapor-tighting" a tank, because this joint is subjected to great strain whenever internal pressure is developed. In recent types of tank construction the top angle is placed within the top ring, thus allowing the joint to be calked after all rivets are driven. Some tank companies are now marketing a combined "riveted and welded" run-down tank.

Method of Making Evaporation Tests On Run-down Tanks

On account of the continual flow from the condenser to the run-down tank, it was not possible to obtain actual volumetric measurements of the gasoline lost in this stage of handling. Therefore, the evaporation loss was determined by taking average samples of the gasoline from the run-down lines and an average sample from the tank just before pumping out. The samples from the lines were taken with the average sampler described by Wiggins.[4] Gravities were taken and distillations were made of these average samples and the evaporation loss was determined by the method described by Wiggins.[5]

The following three tests are typical:

Test A.—In Test A the run-down tank was about 250 feet from the look-box. It was of 1250-barrel capacity, painted gray, and was equipped with a thief hatch consisting of a manhole with a light hinged cover, which could not be closed completely. The roof was corroded and vapor leaks were apparent in many places. The run-down lines were painted gray. The test on this tank was for seven hours during the hottest period of the day. As the gasoline entering the tank was from two different streams, a composite sample was taken by connecting the average sampler to the run-down line just beyond the tail house. Table 1 shows temperatures and gravi-

Table 1—Temperatures and Gravities, Test I

	HOUR					
	11:00 a.m.	Noon	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.
Stream No. 1 at look-box						
Temperature, °F.	114	115	119	...	115	114
Gravity, A. P. I.	59.3	58.9	59.2	58.5	59.1	58.7
Stream No. 2 at look-box						
Temperature, °F.	107	108	113	...	109	110
Gravity, A. P. I.	54.6	53.8	53.2	52.3	53.4	54.7
Tank Temperatures						
Vapor, °F.	116	116	117	...	118	...
Surface of gasoline, °F.	106	110	109	...	109	...
Average of gasoline, °F.	106	109	108	...	110	...
Atmospheric Temperature °F.	90	91	93	...	95	...

The average sampler was connected to the run-down line at 9:00 a. m., but temperature data were not taken until 11:00 a. m.

[2] Schmidt, Ludwig, Effect of cooling systems on evaporation losses of gasoline, Serial 2531. Bureau of Mines, 1923. Schmidt, Ludwig, A floating roof for oil tanks, Serial 2547. Bureau of Mines, 1923.

ties recorded during the test, and Table 2, distillation records of average samples.

The gravity of the composite average sample of gasoline from the run-down lines was 58.1° A.P.I., whereas the gravity of the average sample from the tank was 57.5° A.P.I. This difference in gravity indicates an evaporation loss of 2.8 per cent of the gasoline.

Test B.—This run-down tank was in much better condition than that in Test A. The tank was 10 feet high and 20 feet in diameter, having a capacity of 500 barrels. The shell of the tank was painted a light gray. The unpainted roof was of the umbrella type with roof seams calked, but the joint between the roof plates and the top angle was not calked. The thief hatch was of an old type which was not vapor tight. The average sampler was connected to the look-box. There were about one hundred feet of run-down line. Table 3 gives temperature observations made during the hottest period of the day.

Test C.—The run-down tank in Test C was of the latest type of all-steel riveted construction, with the top angle inside of the shell, thus insuring a good calking edge. The tank was 30 feet in diameter and 10 feet high, having a capacity of 1250 barrels. It was equipped with a ground-seat gauge and thief hatch, but the cover was not fastened down. The tank was covered with burlap on top of which was a water spray. The burlap acted as a distributor and prevented the water from running over the tank in small streams. The run-down line was black and about 100 feet long. As only one stream entered the tank, the average sampler was connected to the look-box. The test ran for a period of 32 hours, beginning at 9 a. m. and ending at 5 p. m. the next day, during which time 1031 barrels of gasoline flowed through the system.

Temperature data taken at different intervals throughout the test are given in Table 4. Table 5 gives the distillation records of an average sample taken from the sampler connected to the look-box, and one taken from the tank at the end of the test.

The difference in gravity indicates an evaporation loss of 0.85 per cent.

Discussion of Evaporation Tests on Run-down Tanks

The evaporation loss in Test A was only 0.4 per cent less than in Test B, although the gasoline was 9.5° A.P.I. lower in gravity and the average temperature of the vapor in the tank was lower. This may be attributed to two causes: First, the higher temperature of the gasoline in Test A, and, second, the difference in the tightness of the tanks. The latter factor was probably the more important.

When the results of Tests B and C are compared, the value of the water spray is apparent. However, the difference in the evaporation loss is not wholly due to the lower temperature caused by the water spray, but partly to the difference in the vapor tightness of the tanks.

Average Evaporation Loss of Gasoline in Run-down Tanks

The above evaporation test and others of a similar nature indicate that a conservative estimate of the evaporation loss in the run-down tanks of Mid-Continent refineries would be 1.8 per cent of the gasoline made. If it be assumed that the average crude is run to make 33⅓ per cent gasoline, then the evaporation loss in run-down tanks would be about 0.6 per cent of the crude. Therefore this loss will account for 30 per cent of a total distillation loss of two barrels per 100 barrels run.

4 Wiggins, J. H., Methods of decreasing evaporation losses of petroleum, Tech. Paper 319, Bureau of Mines, 1923, p. 5.

5 Wiggins, J. H., Evaporation loss of petroleum in the Mid-Continent field, Bull. 200, Bureau of Mines, 1922, pp. 19 to 22.

Table 2—Distillation records of average samples of gasoline from run-down lines and run-down tank, Test A.

Per Cent Recovery	Sample from run-down lines Temperature, °F.	Sample from run-down tank Temperature, °F.
First Drop	140	144
10%	198	206
20%	224	229
30%	243	244
40%	257	261
50%	274	281
60%	293	298
70%	311	318
80%	340	348
90%	388	389
95%	432	433
End Point	460	461

Table 3—Temperatures in Gasoline Stream and Tank, Test B

Hour	Temperature of gasoline stream at look-box °F.	Vapor °F.	Tank Temperatures Surface of gasoline, °F.	Average of gasoline, °F.
1:00 p. m.	93	124	98	97
3:00 p. m.	95	128	99	98

The test was conducted for nine hours, and during this time 256 barrels of gasoline were run. The average gravity of gasoline samples from the run-down line was 67.6° A. P. I., and the average gravity of the gasoline in the tank was 66.9° A. P. I. This indicates an evaporation loss of 3.2 percent.

Table 4—Temperatures and Gravities, Test C

Day	Hour	Gasoline stream at look-box Temperature °F.	Gasoline stream at look-box Gravity °A.P.I.	Tank Temperatures Vapor °F.	Tank Temperatures Surface of Gasoline	Tank Temperatures Average of Gasoline	Atmospheric temperature °F.
1st	9:00 a. m.	90	64.5	92	..	85	88
	11:00 a. m.	92	64.5	94	91	90	90
	2:00 p. m.	94	63.8	98	97	96	96
	3:00 p. m.	97	63.9	98	96	96	101
	4:00 p. m.	94	63.8	98	96	96	98
	8:00 p. m.	91	65.1	86	95	95.5	86
2nd	9:00 a. m.	91	66.9	90	88	89	87
	3:00 p. m.	96	63.7	94	94	98	94
	5:00 p. m.	96	64.4	94	93	92	94

Table 5—Gravities and distillation records of average samples from run-down line and run-down tank, Test C.

	Average sample from run-down line	Average sample from tank
Gravity, °A. P. I.	64.9	64.6
Per Cent Recovery	Temperature °F.	Temperature °F.
First drop	110	118
10% cut	155	156
20%	176	178
30%	191	192
40%	204	205
50%	217	218
60%	230	230
70%	244	245
75%	253	254
80%	264	264
85%	273	275
90%	293	295
95%	334	331
End point	348	348

Marland Sales Force To Meet In Ponca City

PONCA CITY, Dec. 14.—The retail marketing department of the Marland Refining Co. will hold its annual convention at Ponca City on Dec. 16 and 17. Selected members of the distributing division of the organization from a number of states in the middle west have been called in for two days of discussion of marketing problems.

In addition to the addresses by department heads the marketing department men will hear Alan W. Bowser, star salesman for the Guarantee Liquid Measure Co.; Josh Lee of the University of Oklahoma; Joseph M. Dawson of Dallas; and Carl Williams, editor of the Oklahoma Farmer-Stockman.

Wesley I. Nunn, manager of the retail marketing department, will present merit badges and awards in a number of contests at the closing banquet. S. C. Collins, vice president, will be toastmaster.

Walsh Introduces Bill That May Be Aimed at O'Neil

WASHINGTON, Dec. 14

A BILL introduced by Senator Walsh of Montana, the "prosecutor" in the naval oil lease matters, has raised the question whether he has not in preparation, a plan for "getting" former president O'Neil, of the Prairie, and others concerned in the unexplained transactions of the Continental Trading Co., Ltd., the Canadian corporation used by its organizers for handling the crude bought from A. E. Humphreys and sold, by the trading company, to the Prairie and Sinclair companies.

The measure deals with the refusal of O'Neil, when summoned into court in France, to give testimony under the letters rogatory issued by the federal court at Cheyenne. It says that one failing to appear or having appeared, failing or refusing to give testimony after hearing in the American court may be held guilty of contempt of the court issuing the letter, his property seized and sold to pay a fine not exceeding $100,000 for such contempt.

A theory that the Montana senator may have what he thinks a rod in pickle for the recusant witnesses, is founded upon the fact that the senator, in answer to an observation about the drastic character of his bill, said it was too bad it could not be made retroactive; also upon his statement, in answer to a question as to whether he had any plans for continuing inquiry into the matter by the public lands committee that he had not had time to consider or talk about the ideas of friends who had been inquiring into the matter for him.

It may be that the senator is thinking, not particularly of the offense of refusing to testify on the part of those who were in France when summoned to testify. Those who think they know something of his mental processes, however, are inclined to think he introduced the bill with a view to bringing them to taw, rather than guarding against a repetition of the situation in France, in the future. The thought is that further proceedings in that matter might be started because of new facts or testimony disclosed at further sessions of the public lands committee, after the passage of the bill. Such proceedings would not, it is suggested, require any effort to apply the recusancy law retroactively.

In introducing the bill, which the Montana senator had read into the Congressional Record, a not usual proceeding, he related the facts about the issue of the letters rogatory, which were obeyed so far as appearances in the French court were concerned, but which produced no testimony.

"Those witnesses," said the senator, "appeared before a judge of the Republic of France, but refused to testify. I introduce a bill, which I send to the desk, in order to meet that situation and ask that it may be read."

It was noticed, by some of those interested, that the senator said the bill was "to meet that situation," the language referring directly to the situation in the court when the witnesses appeared but refused to testify. He did not say "to meet situations of that sort or kind" in the future. The Montana senator is not a bungler in the use of English. On the contrary he uses it precisely. He may have slipped when he said what he said, but it is believed to be more accurate to say he did not. The observation about retroactive application might easily be taken as an effort on his part, to quiet a suspicion such as might arise because he said "to meet that situation." The bill is as follows:

"Be it enacted, That whenever letters rogatory shall issue out of any court of the United States, either with or without interrogatories addressed to any court of any foreign country, to take the testimony of any witness, and such witness, having been duly notified by it according to the practice of such court, to appear and testify pursuant to such letters rogatory, and such witness shall neglect to appear, or having appeared shall decline, refuse, or neglect to answer to any question which may be propounded to him by or under the authority of such court, to which he would be required to make answer were he being examined before the court issuing such letters, the said court may, upon the complaint of any party aggrieved, make an order returnable at a time to be fixed therein requiring the recusing witness to appear and show cause why he should not be punished for contempt of court.

"2. Upon issuing such order the court may, either unconditionally or upon giving security for any damages he may have suffered, should the charge be dismissed, direct as a part of such order that the property of the recusing witness, at any place within the United States, or so much thereof in value as the court may direct, shall be levied upon and seized by the marshal of said court in the manner provided by law or the rule of the court for a levy or seizure under execution, to be held to satisfy any judgment that may be rendered against such witness in the proceeding so instituted.

"3. The marshall having made such levy shall thereupon cause to be published such order to show cause and for the sequestration of the property of such witness, in some newspaper of general circulation in the district within which the court issuing such order sits, once each week for four successive weeks.

"On the return day of such order or any later day to which the hearing may by the court be continued, proof shall be taken and if the charge of recusancy against the witness shall be sustained the court shall adjudge him guilty of contempt, and notwithstanding any limitation upon the power of the court generally to punish for contempt, impose upon him a fine not exceeding $100,000 and direct that the amount thereof with the costs of the proceeding be satisfied, unless paid, by a sale of the property of the witness so seized or levied upon, such sale to be conducted upon the notice required and in the manner provided for sales upon execution."

Spends $35,000,000 On Roads

TULSA, Dec. 12.—The state of Missouri will have spent $35,000,000 for good roads during 1925 when the year is over. This includes the hard surfacing of 1000 miles of road and the grading of 750 miles to be hard surfaced next year. At the close of 1926 the state will have around 4000 miles of hard surfaced roads.

The Playground of Monsters

Staff Special

TULSA, Dec. 12.—A find which should hold much interest for geologists was made in the Texas Panhandle recently, when bones of some prehistoric animal were found in an excavation made for the cellar of a well. This is the information contained in an interesting letter written by Hampton A. Steele, scout for the Prairie Oil & Gas Co., in the Lawton, Okla., district, in making a report to Harry L. Norris, chief scout, Tulsa. Mr. Steele had been to the well which is in Wheeler county, to be present at its measurement, after it had reached contract depth. An extract from his letter follows:

"If any fossil hunters drop into your office you might suggest that they do some excavating around the Shedden well on the Clarence Westmoreland farm in the NW of 27, Block A-8, G. & N. R. R. lands, nine miles north of Shamrock, Tex. The bones of some huge prehistoric animal were discovered in excavating for the cellar of the well, being about 20 feet below the surface. A farmer half a mile away made the same kind of discovery at about the same depth, in digging a water well.

"A tusk about six inches in diameter was placed together and is on exhibit in a bank at Shamrock. While some people believe cemeteries are good places to locate oil wells, it seems that mastodon graveyards are different, for the well was dry at 3003 feet."

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Big Draft on Fuel and Gas Oil Stocks at 124 Refineries

By Special Wire Service

TULSA, Dec. 15

STOCKS of gas and fuel oil at 124 refineries in the Mid-Continent field were reduced 8,000,000 gallons during the second week in December, according to reports gathered by National Petroleum News. The big draft on stocks was made in spite of the fact that production was increased nearly 2,000,000 gallons as compared with output in previous week.

Gasoline stocks increased 1,200,000 gallons as a result of the increased production but kerosene stocks were reduced 340,000 gallons at all plants.

Crude oil run to stills at refineries covered by this survey increased 23,000 barrels daily average from the average of the previous week, bringing daily average crude throughput to 35,358 barrels. Charges of rerun oils were decreased 4000 barrels daily average. The increases were well scattered through the field amounting to 2,500 barrels per day on crude in Kansas, 8000 barrels in Oklahoma, 11,000 barrels in Texas, and 2000 barrels in north Louisiana and Arkansas.

Production of gasoline was increased roundly a million gallons during the week to 30,493,339 gallons while shipments fell off 1,500,000 gallons to 29,244,212 gallons. North Texas refiners were the only ones to increase their shipments and show a reduction in light oil inventories on Dec. 11.

Stocks of gasoline at all plants on last Friday totaled 52,791,075 gallons which represented 13 days' supply at the rate of shipments maintained during the week. On Dec. 12, 1924, gasoline stocks at approximately the same group of plants totaled 51,867,946 gallons and crude runs for the corresponding week were almost identical.

In north Texas stocks of kerosene increased less than 200,000 gallons although shipments fell sharply from the record of the first week of the month when exporters were drawing heavily on the field. All other groups in the Mid-Continent reduced their stocks of kerosene: Kansas 200,000 gallons, Oklahoma 300,000 gallons, and Louisiana and Arkansas 20,000 gallons. Stocks on Dec. 12 represented only 14 days' supply at all plants.

Shipment of fuel and gas oil increased 29.9 per cent over the previous week at all plants. The increase was quite uniform, amounting to 39 per cent in Kansas, 34.6 per cent in Texas, 30.3 per cent in Oklahoma, and 17.7 per cent in north Louisiana and Arkansas. The Texas plants reporting cut their stocks 3,200,000 gallons during the big flurry in that field which has driven fuel oil prices above $1.60 per barrel. Oklahoma reduced their stocks 4,000,000 gallons and stocks as a whole were cut 8,000,000 gallons to 177,223,795 gallons, representing 29 days' supply at the current rate of shipment. Fuel oil stocks are now 34,000,000 gallons below the peak reached two months ago.

Summary for Month

Production and shipments, all reporting refineries, for four weeks ended Dec. 11. Change in stocks figured from Nov. 13.

Gasoline

	Gallons
Production	118,335,963
Shipments	116,706,137
Net change in stocks	+1,629,826
Ratio sales to production	98.6%

Kerosene

Production	21,389,826
Shipments	24,833,134
Net change in stocks	—3,443,308
Ratio sales to production	16.1%

Fuel and Gas Oils

Production	141,112,663
Shipments	156,093,888
Net change in stocks	—14,981,225
Ratio sales to production	110.6%

Mid-Continent Refinery Operations Week Ended Dec. 11 (By Fast Wire)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Nov. 13
Plants Reporting	23		46		41		14		124		124
Da. Cap. (Bbls.)	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Run	54,525	+ 4.7	95,971	+ 9.0	61,254	+21.8	39,508	+ 4.3	251,258	+10.1	233,499
Da. Av. Other Oils	2,291	—72.6	15,191	+ 3.0	11,476	+ 9.5	1,305	+121.9	30,263	—12.1	56,093
GASOLINE—Gallons											
Stocks Dec. 4	8,358,086		24,819,030		15,099,131		3,265,701		51,541,948		51,231,656
Prod. 12-4 to 12-11	7,789,046	— 6.3	13,091,191	+ 5.1	7,075,719	+13.6	2,537,383	— 1.3	30,493,339	+ 3.1	27,276,659
Ship. 12-4 to 12-11	7,602,075	— 5.5	11,936,345	— 8.6	7,204,848	+16.7	2,500,944	—22.4	29,244,212	— 5.0	27,347,066
Stocks Dec. 11	8,545,057	+ 2.2	25,973,876	+ 4.7	14,970,002	— 0.9	3,302,140	+ 1.1	52,791,075	+ 2.4	51,161,249
Ratio Sales to Prod.	97.6%		91.2%		101.8%		98.6%		95.9%		100.3%
KEROSENE—Gallons											
Stocks Dec. 4	5,786,827		4,116,278		1,401,302		362,748		11,667,155		14,084,987
Prod. 12-4 to 12-11	1,358,835	— 5.1	2,229,693	+ 3.6	1,292,008	— 2.2	280,140	—21.2	5,160,676	— 1.9	6,254,428
Ship. 12-4 to 12-11	1,558,165	— 6.4	2,529,525	+11.7	1,107,444	—46.9	308,356	—11.5	5,503,490	—13.5	5,571,766
Stocks Dec. 11	5,587,497	— 3.4	3,816,446	— 7.3	1,585,866	+13.2	334,532	— 7.8	11,324,341	— 2.9	14,767,649
Ratio Sales to Prod.	114.7%		113.4%		85.7%		110.1%		106.6%		89.1%
GAS AND FUEL OILS—Gallons											
Stocks Dec. 4	20,653,951		100,626,313		41,106,509		22,973,802		185,360,575		196,914,244
Prod. 12-4 to 12-11	7,138,238	— 1.3	10,959,315	+ 8.8	7,901,011	+ 4.5	8,498,720	+ 7.3	34,497,284	+ 5.2	36,031,764
Ship. 12-4 to 12-11	7,636,079	+39.0	14,925,092	+30.3	11,064,390	+34.6	9,008,513	+17.7	42,634,074	+29.9	40,740,998
Stocks Dec. 11	20,156,110	— 2.4	96,660,536	— 3.9	37,943,130	— 7.7	22,464,009	— 2.2	177,223,785	— 4.4	192,205,010
Ratio Sales to Prod.	107.0%		136.2%		140.0%		106.0%		123.6%		113.1%

Oil Board Studies Gasoline Waste In Automobile Engines

By V. B. Guthrie
N. P. N. Managing Editor

WASHINGTON, Dec. 12

THE oil industry has been so concerned with the work of the Federal Oil Conservation Board, as it applies to the taking of crude petroleum from the ground, refining it and distributing it to the public, that it has entirely overlooked one question which is being given serious consideration by the advisory sub-committee at present, and will later be put before the official board.

That question concerns itself with any waste in gasoline which may come about through present automotive engines not developing as great power from the motor fuel they consume as is possible.

The board has before it published statements which have been made at times past by such authorities in the automotive engineering field as C. F. Kettering, head of the research activities of the General Motors Corp., H. L. Horning, of the Waukesha Motor Co., and others to the effect that automobiles could be developed that would secure double, or better, the present mileage from gasoline.

On top of this it has listened to inventors, good, bad and indifferent, who have some pet device they believe can be attached to present engines to increase gasoline mileage. It has delegated representatives to ride in demonstration cars these inventors have brought around.

High Compression Development

It has views from various authorities in the automotive world that greater gasoline efficiency is undoubtedly possible through new engine design allowing the use of high compression pressures, but pointing out the confusion into which the automobile manufacturing business will be thrown if such changes were to be brought about in any but their normal development, even to the effect on the stock market.

So—as its work develops which development is much slower than had been anticipated when the Federal Oil Conservation Board was organized almost a year ago—this matter of conservation in the actual consumption of gasoline in automotive engines is being considered along with all other phases of the work. And it is a possibility that the final recommendation of the board will have something in it that will encourage the development of high compression engines, and possibly improved carburetion devices to allow greater gasoline economy in present types of engines.

The board's consideration of this phase of conservation in utilization has been stimulated by the announcement of the progress the oil industry is making in offering to the public a motor fuel suitable for engines of higher compression as a product from its cracking stills.

As the status of the oil board's work now stands, the digesting of the answers to the 10 questionnaire letters sent out early this year have about been completed. The members of the advisory subcommittee, which has done this work, have in most cases had their first drafts, which ran to considerable length, thrown back at them by Secretary Rochester to boil down still further.

When these 10 analyses of the answers to the questionnaire letters are completed, there will remain the task of combining those 10 into one digest, of reasonable length, which will embody the views on the various questions raised by the board of the oil industry, and to a lesser extent outside authorities.

Board Has No Views Yet

Until this is done, there is really no work for the Federal Oil Conservation Board itself to do, for, as Secretary of the Interior Work, chairman of the board, puts it, "The board is a body of inquiry only. It has no views of its own, at least for expression. It will start with the material the oil industry itself has furnished. That will be amplified at an open meeting to which certain authorities in the oil industry will be invited. But anyone with views on the question of oil supply or their proper conservation will be given a chance to put them before the board at this meeting."

With the cabinet members of the board, Work, Hoover, Davis, and Wilbur, taken up at present with the task of arranging their work and budgets for 1926, Secretary Rochester estimates it will be the latter part of January before it can give attention to the oil problem.

The digests of questionnaire answers which have not yet been completed are the two being prepared by Rear Admiral Harry Howard Rousseau of the Navy Department on waste in utilization and possibilities of oil substitutes. Admiral Rousseau has had to spend considerable time in California in connection with his duties as one of the receivers of the Elk Hill properties of the E. L. Doheny interests.

It was the questionnaire on waste in utilization that was designed by the board to draw out data on its thought that conservation of gasoline might be accomplished through greater efficiency of automotive engines. This letter, sent out Feb. 23d, asked "to what extent the public would tolerate less convenience, comfort or speed in order to eliminate waste." The letter went on to state:

Waste in Utilization

"In its consideration of the problem of diminishing resources of crude petroleum, with an increasing demand for its products, which the country is facing, the board regards waste in utilization of these products as an important phase.

"One of the major factors in the demand for crude petroleum is the quantity of motor fuels and lubricants required, and elimination of waste in their use is therefore of major importance."

Opinions were asked as a guide in a number of phases of the problem of waste in motor fuel and oil utilization. Here are some of the questions asked in the questionnaire.

"Do you note any growing demand by users of motor fuel for more miles per gallon?

"What factors, if any, are likely to bring about an increased demand on the part of the public for elimination of waste?

"In what way does the general de-

BULLETIN

WASHINGTON, Dec. 14.—An informal conference took place Dec. 12 between Secretary Work, head of the Federal Oil Conservation Board, W. N. Davis, of the Mid-Continent Oil and Gas Association, A. S. Davison, of the Gulf and W. S. Farish, of the Humble Oil & Refining Co. The secretary said the oil men called on him more in a social than a business way, to become acquainted with him. He did not regard their call as being made in an official capacity as directors of the American Petroleum Institute, although he said they talked a little about the report of the Committee of Eleven but not specifically about anything in it or about conservation. Messrs. Davis and Farish were in Washington, when they learned that Mr. Davison was also in the city. They decided that it would be no more than right that they should make a call on Secretary Work and pay their respects. That is why Secretary Work referred to the call as a social one.

mand as to engine performance influence the average fuel consumption?

"To what extent would the public tolerate lessened conveniences, comfort or speed of operation, in order to eliminate waste?

"What would be the effect of increase in price of motor fuel in the average demand?

"What is the average consumption for motor vehicles in terms of miles, or ton-miles, per gallon, by types?

"Is there any practical method you can suggest for reducing the gasoline consumption of the 15,000,000 cars now in operation in the United States?

"To what extent might it be reduced in new models of vehicles built along present conventional lines?

"Granted the European types of small bore, high speed, high compression motor produces more passenger miles in small cars, what is the likelihood of American motor design following foreign tendencies?

"How would modification in design permitting greater fuel economies affect the aggregate demand for motor fuel in the next few years?

"What new processes are in sight promising direct use of crude or fuel oil, or other heavy fuels, in automotive engines?

"What would be the result in service of a decided reduction in average fuel volatility?

"What are the outstanding unsolved technical problems, if any, which require solution in connection with measures for eliminating waste in motor fuel utilization?

"What economic problems of like nature are unsolved?

This questionnaire was sent to such authorities in the automotive field as H. W. Alden, Timken-Detroit Axle Co., Detroit; A. J. Brosseau, president Mack Truck Co., New York; O. M. Burkhardt, Pierce Arrow Motor Co., Buffalo; H. M. Crane, General Motors Corp., New York; Henry Ford, Detroit; H. L. Horning, Waukesha Motor Co., Waukesha, Wis.; Russell Huff, chief engineer, Dodge Bros., Detroit; O. E. Hunt, Chevrolet Motor Co., Detroit; C. F. Kettering, research department, General Motors Co.; J. G. Vincent, Packard Motor Car Co., Detroit:

Two oil company technologists received this questionnaire, C. W. Stratford, Associated Oil Co., San Francisco, and R. E. Wilson, Standard Oil Co. of Indiana.

Offices Are Moved

TULSA.—Texas Pacific Coal & Oil Co. has moved its Oklahoma headquarters from Wynnewood to Oklahoma City, and is operating its land office in the Braniff building there, with J. B. Kennedy superintendent in charge. C. E. Yager heads the geological staff, having been transferred from Texas. The T-P is reported to be getting ready for a considerable increase in its drilling activity in Oklahoma.

Montana Association Convention Attracts Large Gathering

THE first annual convention of Montana chapter, Rocky Mountain Oil & Gas Association, was formally concluded by the election of E. B. Coolidge of Lewistown to serve as president for the coming year. Mr. Coolidge is president of the Homestake Oil Co. and is a pioneer in the oil and gas industry in Montana.

He succeeds A. Judson Findley, vice president of the Western Petroleum Exploration, first president of the association.

The meeting began on Dec. 5 and lasted two days. Total registration was in excess of 350 and included oil men from 10 states. So successful were the officers in attracting the attendance to this meeting that it is planned to make it an annual affair.

The Rocky Mountain Oil & Gas Association has been in existence for several years and has occupied an important part in all matters requiring for success the solidarity of the oil industry. The Montana chapter was brought into existence within the past year and then by virtue of the fact that the Montana industry was growing too rapidly to enable the present organization to do it full justice.

This last meeting held much of interest to all divisions of the oil industry. The association includes in its membership producers, refiners and marketers, with adequate voice in the conduct of the organization given to each division.

Among the resolutions adopted by the association was one which pointed out the necessity for putting the public in possession of correct information respecting the industry to the end that a better understanding may prevail and the industry may be permitted to function in the best manner. Other resolutions called upon the state to use the money collected through gasoline taxes and automobile license taxes for highway purposes.

It was also pointed out in a resolution that full support should be given to officials who are trying to reduce governmental expense, as the cost of government is increasing out of proportion to the increase in industrial prosperity.

Vice presidents for the three divisions of the industry were elected. They are:

Refiners—M. C. Henderson, Great Falls, general manager of the Sunburst Refining Co.

Producers—A. Judson Findley, vice president of the Western Petroleum Exploration.

Distributors—C. H. Brown of the Arro Oil & Refining Co., Lewistown.

Walter F. Brittain and A. D. Becker, both of Great Falls, were re-elected secretary and treasurer, respectively.

The following were elected to the executive committee:

M. C. Henderson, Great Falls; C. W. Landsrude, Great Falls; C. H. Brown, Lewistown; A. E. O'Brien, Lewistown; A. Judson Findley, Shelby, and O. I. DeSchon, Great Falls.

Following a change in the by-laws, providing for a directorate of 12 instead of 10 members, the association elected as directors:

Producers—E. B. Coolidge of the Homestake Oil Co.; Donald Campbell of the Mid-Northern Oil Co., and A. Judson Findley of the Western Petroleum Exploration.

Refiners—L. B. O'Neill of the International Refining Co.; A. E. O'Brien of the Lewistown Oil and Refining Co., and M. C. Henderson of the Sunburst Refining Co.

Marketers—C. H. Brown of the Arro Oil and Refining Co.; C. W. Landsrude of the Continental Oil Co.; H. Earl Clack of the H. Earl Clack Co.; Henry Sample of the Hughes Oil Co., and R. J Coughlan of the Westland Oil Co.

Publicity—O. I. DeSchon.

Engineers Will Meet

TULSA, Dec. 12.—The second joint meeting of the American Society of Mechanical Engineers and the American Institute of Mining and Metallurgical Engineers will be held in the auditorium of the Tulsa municipal building, at 8 p. m. Dec. 18. The principal speaker will be J. O. Lewis, whose subject will be "The Cleaning of Oil Wells." These meetings are open to the public, and all those interested in the subject to be discussed are urged to attend.

At the first joint meeting of these societies, held a month ago, oil mining was discussed, with papers by Leo Ranney and John L. Rich. That meeting was under the auspices of the A. I. M. M. E., while the mechanical engineers will have charge of the coming event.

Transcontinental Oil In New Home

TULSA, Dec. 14.—General offices of the Transcontinental Oil Co. have been moved to the Ritz building at the corner of Fourth and Boulder.

Since headquarters were moved from Pittsburgh late in the summer the company has been scattered in various buildings awaiting completion of its new home. Four full floors are being occupied by the company.

TULSA,—Announcement was made here recently of the forthcoming marriage of D. W. Moffitt, vice president of the Mid-Continent Petroleum Corp., and Mrs. Rosella Amundsen. Mr. Moffitt is a widower, his wife having died several years ago after having been an invalid for a number of years.

Good Sized Flow of Oil Gives Promise of New Field in Southeast Utah

By Special Correspondent

DENVER, Dec. 15

THE most encouragement Utah has had for a new oil field came with the discovery of a good flow of high grade oil by the test of the Midwest Refining Co., drilling for the joint account of the Utah Southern Oil Co. on Cane Creek dome, 12 miles south of Moab, in northern San Juan county.

The well—No. 1 Shaffer—located in 6-27-21 found first oil and gas at 1990 feet and at 2028 feet the well blew in making gas and oil. The rig caught fire and was destroyed. The fire was extinguished and the well started flowing by heads at intervals of 20 to 40 minutes making 150 barrels of oil, some water and two million feet of gas. The water disappeared a few hours later and the flow increased to 350 barrels.

Owing to lack of tankage the well was mudded in and new rig, tankage and equipment are now being taken to the field.

The test started in the Pennsylvanian formation and was still in that series when the oil was found. The big sand in the Pennsylvanian was expected at 3500 feet. This is the first important result to be had west of the main mountain range and south of the Wyoming fields in the Pennsylvanian.

The oil is 38 gravity, light green and contains 15 per cent paraffin wax and 21 per cent gasoline. Oil from the Pennsylvanian in Wyoming is black and of asphalt base.

The hole had barely topped the producing horizon when the flow started and until the new rig is built and tankage is installed no test can be made.

The structure contains 9000 acres within the closing contour and several other closed structures are located within a radius of 25 miles. The Dakota sands have been the objective of wildcatters in Colorado for the past two years with few exceptions. Marland Oil Co. of Colorado drilled in Rio Blanco county, Colorado, on structure worked out in the Pennsylvanian but a flow of water from a break between the red beds and the Pennsylvanian was too great to permit reaching the objective sand. Standard of California and J. S. Cosden are drilling Pennsylvanian tests in eastern Colorado.

The area south of the Midwest well into Colorado, northwestern New Mexico and northeastern Arizona is known to have Pennsylvanian sands in place but no conclusive tests have been drilled. Continental Oil Co. is drilling a test to the Pennsylvanian on Rattlesnake dome, northwestern New Mexico, but so far has been unable to get through the Dakota formation where large production of 65 gravity oil was found.

The log of the Cosden test in Prowers county, southeastern Colorado, shows the Pennsylvanian columns resembles Oklahoma and Texas columns more than it does the Wyoming Pennsylvanian.

The Midwest discovery opens a large area for prospecting and companies are already seeking leases. Some distance south of this well, a little oil has been produced for years in what is known as the Mexican Hat field, some distance to the south and in San Juan county, Utah. The oil is found at depths varying from 250 to 600 feet and some 10 producing sands have been drilled. These are all in the Goodridge formation of Pennsylvanian age. The oil field is deeply cut by the San Juan canyon and drainage has thus been provided for the oil above the floor of the canyon. Production, therefore, has been uncertain and no more than to supply the small local trade. A little refinery at Mexican Hat cares for the San Juan field output.

The territory is remote from railway and is difficult of access, owing to the few highways that have been developed. In the event the new strike should develop into a field, it probably would find outlet to Salt Lake City.

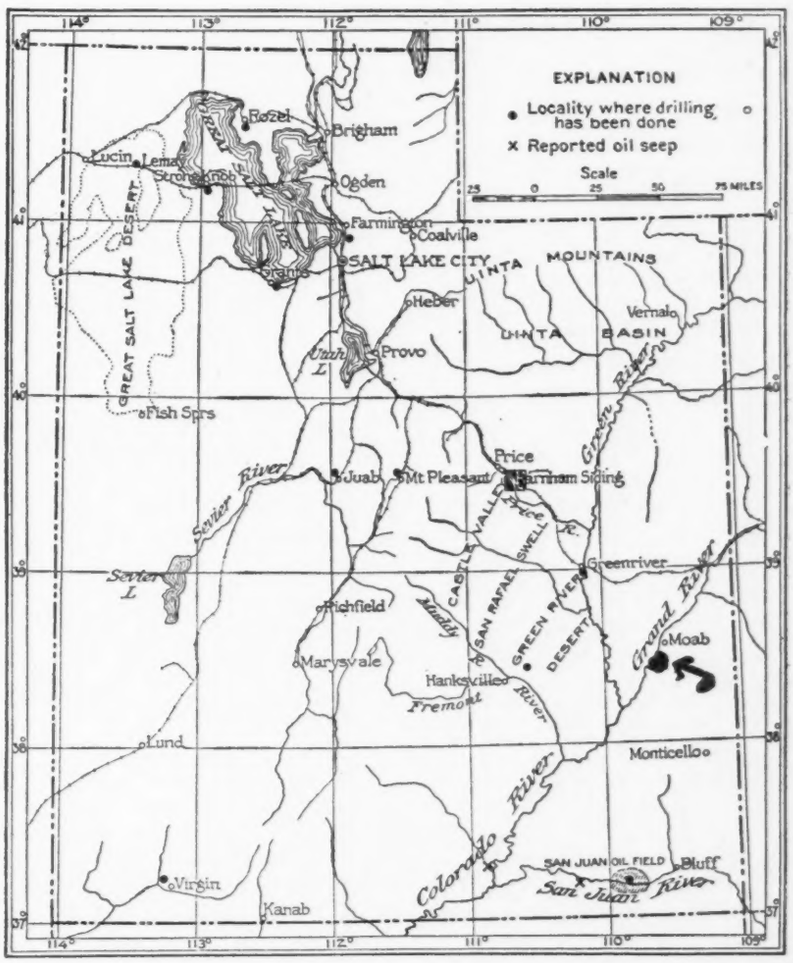
Correction

In the roster of oil associations which was published on page 88 of the November 25 issue of National Petroleum News, the old address of the Michigan Independent Oil Men's Association at Jackson, Mich. was given.

The new address of that association is 220 Ashton Bldg., Grand Rapids, Mich.

Under the Natural Gas Association of America, the name of Guy F. Bachelor as secretary, was omitted.

F. Julius Fohs should have been named chairman, of the American Institute of Mining and Metallurgical Engineers, petroleum division, instead of E. de Golyer.



Oil and gas map of Utah, from U. S. G. S. Bulletin 711-a. Arrow and circle indicate approximate location of Midwest well. Previously exploited fields in Utah are the San Juan field, southeast corner of state, and the Virgin field, southwest.

Dave Connolly, Veteran Oil Producer Made Success by Hard Work

By A. F. Hinton

N. P. N. Staff Writer

TULSA, Dec. 15

DAVID F. Connolly, whose sudden death last Monday caused sorrow throughout the oil industry, was buried today in the Catholic cemetery, after solemn requiem mass had been sung in the Holy Family church. The funeral address was delivered by the Right Reverend Francis Kelley, bishop of Oklahoma. The large church was thronged with Mr. Connolly's friends, representing almost every division of the oil industry, and including many civic and industrial leaders of Tulsa. The sisters of charity whose cause he was working for in the hospital campaign that immediately preceded his death, were present in a body, while another group consisted of uniformed boy scouts, in whom Mr. Connolly had always taken a great deal of interest.

The active pallbearers were T. A. Latta, editor of the Tulsa Daily World; J. J. Conry, general superintendent of the Carter Oil Co.; R. L. Dunkle, for many years associated with Mr. Connolly in the Wolverine Oil Co.; J. J. McGraw, head of the Exchange National Bank; Nelson K. Moody, president of the Prairie Oil & Gas Co., and Thomas P. Melvin, oil man.

Honorary pallbearers were A. W. Leonard, vice president of the Oklahoma Natural Gas Co.; J. R. Manion, president of the Sinclair Pipe Line Co.; Dana H. Kelsey, vice-president and general manager, Prairie Oil & Gas Co.; J. Arthur Hull, president of the J. H. Hull Oil & Gas Co.; Thomas Chestnut, chairman of the board, Chestnut & Smith Corp.; M. J. Heald, Denver, Col.; Capt. E. Constantin, president of the Tonkawa Petroleum Corp.; George Coyle, general superintendent of the Prairie Pipe Line Co.; Martin Moran, president of the Texas Pipe Line Co. of Oklahoma; Robert Egan, editor of the Oil & Gas Journal; Charles Bisset, president of the Zola Oil Co., and T. J. Donoghue, vice president of the Texas Co., Houston.

An Humble Beginning

Dave Connolly was every inch an oil producer. All of his working life was spent in the producing division of the industry, in capacities running all the way from the lowliest class of work in the field up to executive positions with large corporations. He once told the writer that his oil experience could be epitomized in a single phrase, "40 years under the beam," and that phrase means something in an industry where long practical experience is a man's chief asset in his climb up the ladder to success. In his case, ability and ambition went hand in hand with experience, leading him to the top of his profession, and causing him to become a recognized authority on all things connected with the production of oil.

Mr. Connolly was forced through the exigencies of life to start to work early in his boyhood, and so received only a rudimentary school education. Through the following years he overcame this handicap through constant study and reading, until he became a well-read and well-informed man, a polished gentleman, and an excellent conversationalist and orator. His personal magnetism made many friends for him, with their numbers increasing through the years, so that his death found him a well-loved character in all the oil country. Although genial by nature, he was a man of strong convictions, with certain principles to which he adhered rigidly. He never swore, never drank, never used tobacco, and was an inveterate and outspoken foe of liquor.

Mr. Connolly was born April 5, 1859, in a little Canadian town near the border, whence his parents moved to the vicinity of Titusville, Pa., when he was still a baby. As soon as he was big enough, he went to work in the oil fields of that historic locality, and worked up through the various stages until he became a driller and afterward a contractor.

Entered Oklahoma Early

Afterward he was a producer, operating with his brother as Connolly & Connolly, and was actively connected with the development of the fields of Pennsylvania and West Virginia. He then became connected with the Associated Producers, from which the Tidewater Oil Co. had its inception, and in 1898, Mr. Connolly was living in Parkersburg, W. Va., in charge of producing interests of the Associated. In 1904, Mr. Connolly and Dixon Q. Brown, son of the then president of the Tidewater Oil Co., came out to the Mid-Continent field for the first time, stopping first at Independence, Kans., and proceeding thence southward through the few scattered pools that represented Oklahoma's productive territory at that time.

Although his family did not come to Oklahoma for several years thereafter, Mr. Connolly was from that time on a Tulsan. He operated in Oklahoma as D. F. Connolly and Associated Producers and acquired a number of fine producing properties. Early in the Glenn Pool development he bought the Corbray farm in fee, and this property developed into one of the best in the field.

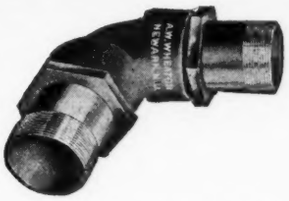
In September, 1907, the Tidewater interests organized the Okla Oil Co., with D. F. Connolly as vice president and general manager, and C. E. Hane as secretary-treasurer.

Mr. Connolly remained at the head of the Okla Oil Co. until 1910, when he again became a free-lance producer. The Okla was re-named the Tidal Oil Co. in 1916, and remains today one of the important factors in the Mid-Continent. In 1911 or 1912 Mr. Connolly joined the organization of the Texas Co., and in May, 1913, he took over the management of the Central Petroleum Co. This was a holding company, operating several Texas Co. subsidiaries, such as the Wolverine Co., Sagamore Oil Co., Wigwam Oil Co., and others. Connolly was president of the Wolverine, vice president of the Central, and a large stockholder in the Texas Co.

When the Union Oil Co. of Delaware obtained control of the Wolverine Oil Co. in 1919 or 1920, Mr. Connolly resigned, and went to New York, where he was engaged in a confidential capacity with the executive committee of the Texas Co. Early in 1922 he organized the D. F. Connolly Agency, placing its active management in the hands of his son-in-law, Frank P. Monahan, who is at its head today. In 1924, Mr. Connolly finally severed his ties with the Texas Co. and returned to Tulsa, living here from that time until his death.

Early in life Mr. Connolly married Miss Ella Webster. This union produced one son, who died in infancy, and four daughters, all of whom are living. They are Mrs. M. J. Heald, of Denver, Col., and Mrs. H. C. Jacobus, Mrs. F. J. Egan, and Mrs. F. P. Monahan, all of Tulsa. He is survived by two brothers, John Connolly, of Muskogee and H. J. Connolly, of Tulsa, and three sisters, Miss Beebe Connolly and Mrs. W. H. Montgomery, both of Tulsa, and Sister Mary Claire, of Titusville, Pa.

TULSA.—H. H. Wood a former salesman for the Marland Refining Co., will reenter the service of the company. He will travel in Missouri for the wholesale department with headquarters at Kansas City. L. E. Thomason is manager of the Kansas City division with offices in the Finance building. Mr. Wood was at one time manager of lubricating oil sales out of Ponca City and later located at Tulsa as local Marland representative. More recently he has been in business for himself in Tulsa.



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Crude Production by Districts

Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute

National Petroleum News

OKLAHOMA

	Dec. 12	Dec. 5
North Braman	1,750	1,750
South Braman	4,650	5,200
Blackwell	2,750	2,800
Hubbard	1,900	2,150
Thomas	16,050	16,400
Tonkawa	42,050	40,750
Garber	41,950	49,050
Burbank	46,900	47,600
Osage, outside Burbank	33,200	33,000
Watchorn	2,850	3,050
Cushing	22,850	22,850
Yale Jennings	12,450	12,550
Davenport	20,750	20,900
Bristow-Slick	31,250	30,950
North Okmulgee	18,350	18,250
Lyons-Deaner	4,500	4,500
Stroud	3,350	3,400
Cromwell	20,900	21,100
Papoose	13,750	13,250
Wewoka	8,300	8,550
Duncan district	7,900	7,900
Graham	9,200	9,200
Fox	4,650	4,550
Healdton	15,100	15,200
Hewitt	13,700	13,850
Others	64,350	63,250
Total Oklahoma	465,400	472,000
Decrease		6,600

* * *

KANSAS

	Dec. 12	Dec. 5
Florence-Covert	1,950	1,950
Peabody-Elbing	4,900	4,900
Eldorado-Towanda	14,400	14,500
Augusta-Fox Bush	5,400	5,400
Rainbow Bend	7,650	7,300
Russell	5,650	5,750
Others	63,800	63,600
Total Kansas	103,750	103,400
Increase		350

SOUTHWEST TEXAS

	Dec. 12	Dec. 5
Luling	22,300	21,600
Mirando	6,500	6,400
Somerset	2,250	2,200
Lytton Springs	8,750	8,400
Others	800	800
Total S'west Texas	40,600	39,400
Increase		1,200

* * *

GULF COAST

	Dec. 12	Dec. 5
Goose Creek	9,300	9,400
Hull	16,850	16,300
Saratoga	1,100	1,100
Blue Ridge	1,100	450
Damon Mound	950	1,000
Batson	1,100	1,050
West Columbia	9,850	9,950
Humble	4,800	4,800
Pierce Junction	1,350	2,150
Sour Lake	3,950	3,750
Spindletop	1,150	1,150
Orange county	15,850	15,350
Edgerly	500	500
Evangeline	900	800
Vinton	6,450	6,350
Lockport	3,450	3,950
South Liberty	10,300	10,300
Big Creek	950	950
Others	1,400	1,200
Total Gulf Coast	91,300	90,500
Increase		800

* * *

EAST CENTRAL TEXAS

	Dec. 12	Dec. 5
Mexia	15,900	15,950
Currie	1,100	1,200
Richland	2,400	2,400
Corsicana-Powell	36,850	37,250
Wortham	14,200	13,750
Total E. C. Texas	70,450	70,550
Decrease		100

NORTH TEXAS

	Dec. 12	Dec. 5
Burkburnett	13,050	12,800
Electra	16,650	16,350
Iowa Park and K-M-A	4,500	4,300
Wilbarger	14,200	13,950
Panhandle	3,100	2,900
Petrolia	400	400
Archer County	33,450	34,100
Others	1,800	....
Total North Texas	87,150	84,800
Increase		2,350

* * *

WEST CENTRAL TEXAS

	Dec. 12	Dec. 5
Stephens county	13,750	13,800
Eastland county	6,900	6,900
Desdemona	2,250	2,250
Young county	8,950	8,650
Palo Pinto county	450	500
Callahan county	4,600	3,550
Shackelford county	2,550	2,500
Reagan county	33,850	33,450
Others	5,750	5,350
Total W. C. Texas	79,050	76,950
Increase		2,100

* * *

NORTH LOUISIANA

	Dec. 12	Dec. 5
Homer	6,150	6,100
Haynesville	11,600	11,900
Caddo, light	8,650	8,600
Caddo, heavy	2,450	2,650
De Soto, Red River	3,900	3,900
Elm Grove	700	750
Bellevue	2,400	2,350
Cotton Valley	8,850	8,900
Others	200	150
Total N. Louisiana	44,900	45,300
Decrease		400

* * *

ARKANSAS

	Dec. 12	Dec. 5
El Dorado	8,000	8,000
Smackover, light	20,900	21,350
Smackover, heavy	169,000	175,450
Stephens	1,750	1,700
Nevada	1,300	1,350
Total Arkansas	200,950	207,850
Decrease		6,900

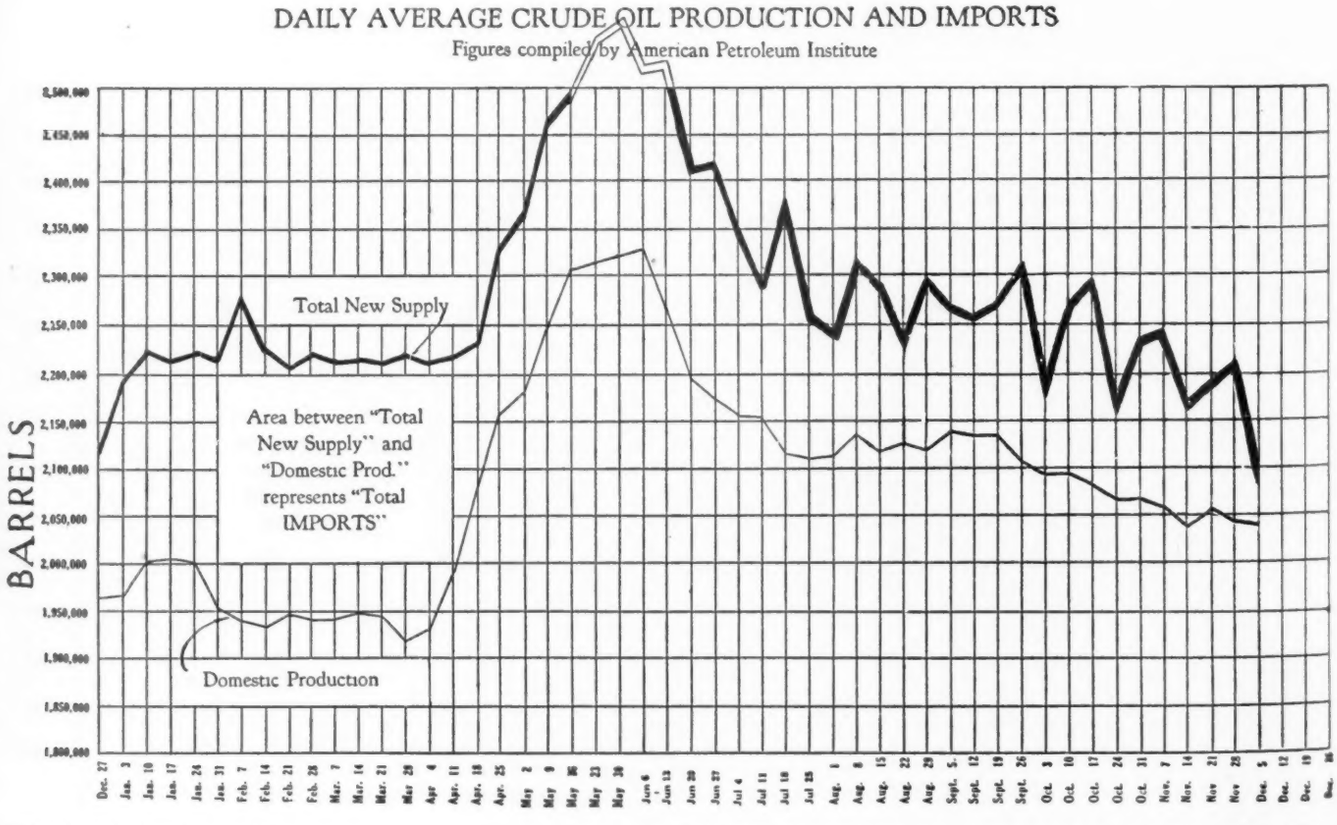
* * *

CALIFORNIA

	Dec. 12	Dec. 5
Santa Fe Springs	51,500	53,000
Long Beach	110,000	109,000
Huntington Beach	45,000	45,500
Torrance	32,000	32,000
Dominguez	26,000	26,000

DAILY AVERAGE CRUDE OIL PRODUCTION AND IMPORTS

Figures compiled by American Petroleum Institute


BARRELS
Total New Supply
Area between "Total New Supply" and "Domestic Prod." represents "Total IMPORTS"
Domestic Production

This chart is based on official complete figures of A. P. I. and is a week later than the production estimates given in tabular form above.

	Dec. 12	Dec. 5
Rosecrans	22,500	23,500
Inglewood	68,000	68,500
Midway-Sunset	95,000	93,500
Others	183,000	178,000
Total California	633,000	635,000
Decrease		2,000

* * *

ROCKY MOUNTAIN

Wyoming

Salt Creek	60,000	60,350
Grass Creek	2,850	2,900
Elk Basin	700	700
Big Muddy	3,250	3,400
Lost Soldier	4,300	3,900
Rock River	2,950	3,200
Teapot Dome	1,400	1,850
Others	5,150	4,800
Total Wyoming	80,600	81,100
Decrease		500

Montana

Cat Creek	3,300	3,300
Sunburst	13,000	15,450
Total Montana	16,300	18,750
Decrease		2,450

Colorado

Moffats (Craig)	2,800	3,150
Fort Collins	1,600	1,300
Florence	400	400
Others	500	300
Total Colorado	5,300	5,150
Increase		150

New Mexico

Artesia	4,400	4,350
Hogback	500	500
Rattlesnake	400	150
Total New Mexico	5,300	5,000
Increase		300
Total Rocky Mountain	107,500	110,000
Decrease		2,500

* * *

EASTERN

	Dec. 12	Dec. 5
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	104,000	*105,000
Decrease		1,000

Production Summary

Production east of Rockies	1,395,050	*1,405,750
Decrease		10,700
Total Production in U. S.	2,028,050	*2,040.750
Decrease..		12,700

*Revised

Petroleum Club Being Formed in Cleveland

CLEVELAND, Dec. 15.—Men engaged in distributing petroleum products in Cleveland and surrounding territory are organizing the Cleveland Petroleum Club as a semi-social organization to foster friendly relations in the oil trade. An effort will be made by the local club to create greater interest in state association work.

B. W. Browne, Great Western Oil Co., is temporary chairman and R. C. Heil, Commercial Oil Co., is temporary secretary. A permanent organization has not yet been effected. It is the tentative plan to hold informal dinners or luncheons about once a month or oftener if the members wish.

Late Tank Wagon Changes

CHICAGO, Dec. 15.—Standard Oil Co. of Indiana on Dec. 14 advanced tank wagon and service station prices of gasoline 2 cents at Wichita, Kans., to 12.8 cents and 14.8 cents respectively. On Dec. 15 gasoline was advanced 2 cents at Duluth, to 17.5 cents tank wagon, and 19.5 cents service station.

Deepest Gasser In Louisiana Sprays 48.9 Gravity Oil

By Paul Wagner

N. P. N. Staff Writer

SHREVEPORT, Dec. 12, THE deepest producing well in North Louisiana is now spraying 20 to 30 barrels of oil daily with its gas flow of approximately 6,000,000 cubic feet every 24 hours. The well is the No. 1 Davis of the Palmer Corp., in 23-21-10, Cotton Valley field of Webster parish. At total depth of 4396 feet, the Davis test shows 48.9 gravity oil from a pay horizon in the Lower Cretaceous geological section that conforms to the 3600-foot gas level in the Pine Island field.

A refinery test of oil coming from the 4400 foot level in the Davis well shows the following:

Product	Per Cent.	Gravity
Gas oil	2.5	33.2
Kerosene	45.0	43.6
Naphtha	27.5	50.6
Gasoline	25.0	58.4

The Cotton Valley field, near the center of which the Davis well is located, is off the Sabine Uplift to the northeast. On the Sabine Uplift, where similar formations are found at considerably shallower depths, the Dixie Oil Co's. No. 43 Dillon (Robertshaw) is a somewhat similar well in that as high as 1500 gallons daily of 68 gravity raw natural gasoline have been recovered through the installation of scrubber tanks for the gas. The Dillon well, completed in October, 1924, made 45,800,000 cubic feet of gas daily when completed at total depth of 3623 feet in 13-21-15.

Other operations are quiet in North Louisiana, except for continued drilling in the Pine Island district for possible oil production at the deep gas level of the Dixie well. A number of gas wells have been completed at its approximate producing level in the last few months and still others, no doubt, will be finished from time to time.

South Arkansas Operations

In the South Arkansas territory, the 2800-foot pay of the East El Dorado (Calion) field has developed nothing of outstanding importance as yet. Dips of formations taken into account, the Calion pay level conforms to the third zone production of the Smackover heavy oil district that is topped at about 2600 feet. The Smackover third zone continues to yield less than 12,000 barrels of heavy crude daily despite the drilling of a large number of wells in an effort to get "gusher" production.

Daily average production at Smackover totalled 193,205 barrels in the week ended December 3 last, as compared with 194,700 barrels for the week ended November 19, last. Nearly 22,000 barrels daily come from the light oil district.

Heavy oil totals compared as follows in the three weeks' period ended with December 3, last:

Week Ended	Barrels
November 19	172,799
November 26	170,688
December 3	172,305

Further Declines Expected

The general belief is expressed that Smackover heavy oil production will decline 20,000 to 30,000 barrels before the end of January, because a number of the wells now flowing are exhausting their quantity of fluid to such an extent that they will be put on the pump soon. The wells to be affected will not yield as much oil on the pump as they have been "blowing on air."

In anticipation of the aforementioned situation, and perhaps a tightening in the Smackover fuel crude supply, a number of small pipe line companies in the field are paying as high as 15-cent premiums for crude moved to their loading racks.

Gulf Refining Co. of Louisiana has recently purchased a one half interest in the Crawford & Sebastian properties at Smackover, including the Giller, Graves and James leases, for a consideration of $300,000.

Nothing has come of the attempt of the Southern Crude Oil Purchasing Co's. attempt to buy the production, gathering system, pipe lines and El Dorado plant of the Lion Oil & Refining Co. It is understood that the Southern, which ties in with the Standard of Indiana, offered $5,000,000 for the property but that this was not accepted and no purchase agreement was entered into.

No details are available of negotiations looking toward the purchase of the American Petroleum Co. (Cullinan) holdings in the Smackover field by the Southern, but it is understood nothing came of this either.

Correction

The price of 13 to 13¼ cents on 68-70, 350-360 e.p. gasoline in Oklahoma as shown under the Dec. 14 column in the refinery market table at the back of this issue, is incorrect. Price on this grade as of Dec. 14 should be 13½ cents flat.

ST. LOUIS.—The Lubrite Sales Corp. has purchased distributing facilities of the St. Louis Oil Co. The business has been operated by a trustee for the past two years since the death of Mr. Stocke.

A Wiggins Floating Roof Eliminates Equipment

If you add to the cost of a gas tight roof the equipment* necessary to make it effective you increase the cost to a point approaching the cost of a Wiggins Floating Roof.

The Wiggins Floating Roof is a *low-cost roof,* because—

It saves thousands of dollars a year by reducing evaporation.

In addition it prevents fire.

*The Wiggins Floating Roof eliminates the necessity of vapor recovery systems, gasholders and other means of reducing evaporation. It makes unnecessary such customary equipment as the roof manhole, thief hole vent (because these are supplied) flame arrester, vent pipe lines, foam boxes, sprinkler systems, etc. (because these are not needed.)

CHICAGO BRIDGE & IRON WORKS

CHICAGO, 2125 Old Colony Building. CLEVELAND, 2206 Union Trust Building. NEW YORK, 3146 Hudson Terminal Building. DALLAS, 1639 Praetorian Building. SAN FRANCISCO, 1060 Rialto Building.

The WIGGINS FLOATING ROOF
Keeps Oil In · Keeps Fire Out

466

Prairie and Pure Will Both Benefit From Pipe Line Deal

By A. F. Hinton
N. P. N. Staff Writer

INDEPENDENCE, KAN., Dec. 14 THE recent acquisition by the Prairie Pipe Line Co. of a half-interest in the Humphreys-Pure Oil Pipe Line Co. eight-inch line from Mexia to the Gulf of Mexico undoubtedly is one of the most important developments of the Mid-Continent field in recent years.

In making available to the Prairie an outlet to the Gulf, whence crude delivered there by pipe line can be conveyed by tank ships to final destination, the deal apparently offers an avenue of much relief to that company in finding markets for its crude. If it is successful in this regard, it is highly important from the producer's standpoint, as anything tending to widen the market for his oil is naturally to his advantage. It should tend toward making proration of runs by the Prairie much less likely, even in periods of over-production.

For the Pure Oil Co. it is also an advantageous arrangement. Under the terms of the sale and agreement made between the two companies, the Pure is assured of sufficient crude to fill requirements of its refineries at Smith's Bluff, Tex., and Marcus Hook, Pa., with a maximum of about 16,000 barrels daily. In addition, it will be able to use the Oklahoma lines of the Prairie Pipe Line Co. in shipping crude purchased from other sources. Beside this, it retains a 49-per cent interest in the line, which will be managed by a pipe line operating organization second to none in the country. This will assure that the line will be operated in the most efficient and economical manner possible, and it is almost a certainty that the Prairie will start in the near future increasing the capacity of the line, both through looping and installing additional machinery.

It is probable that the Pure Oil Co. was faced with the necessity of assuring itself of a future supply of crude for its refineries. Its own production in north Texas had dwindled down to small proportions. In order to tap the Oklahoma-Kansas crude sources, the company would have had to extend its pipe line into those states and enter into active competition with other major crude buyers. This means a continual adding on to lines, extending from one field to another and tapping new areas as they come in. All this is settled once and for all by the arrangement with the Prairie, as that company will have plenty of oil to dispose of as long as there is production in the Mid-Continent. The Pure will receive a high-gravity pipe line crude, averaging around 35 degrees Be., and it will be delivered right in its Smith's Bluff plant.

For the Prairie Oil & Gas Co. it means that Mid-Continent crude can be delivered to Atlantic coast refinery points at a considerable less price than must be charged for the same crude transported from Oklahoma across country through pipe lines. The pipe line tariff from Oklahoma points to Bayonne, for instance, is 76¾ cents a barrel, while from Oklahoma to Gulf Coast points it is 37½ cents a barrel. Added to this is a tanker charge of about 25 cents a barrel. The difference between the all pipe-line rate to the east and the pipe-line-tanker rate via the Gulf thus is 14½ cents. The gathering charge of 20 cents a barrel and the marketing charge of 10 cents would of course be applicable in both cases.

If it is desired to do so, it is probable that the Prairie could develop a considerable crude market in the Gulf Coast district itself, as there are a number of refineries around Beaumont and Houston which could use the oil. I gather from conversations with officials of the Prairie, however, that it is not the company's intention to seek to supply this market.

It is said that the Pure Oil Co. pipe line has been operating practically at capacity of somewhere around 25,000 barrels a day. A large portion of this amount of oil is being carried as tender shipments of the Atlantic Oil Producing Co. and others. Inasmuch as the Pure can demand that the Prairie furnish it up to 16,000 barrels daily, and is running these tender shipments in sufficient quantity to keep its line at capacity, it seems certain that the Prairie's first move will be an enlargement of the line's capacity.

It was said at the Prairie office today, however, that no contracts for the delivery of crude to customers at Smith's Bluff had yet been made, and that the company is unable to estimate how much crude it will have to handle in that direction. Therefore there is nothing to be said at present as to its plans for enlargement of the line. Naturally, it hopes that it will be called upon to deliver large quantities of crude down that way, and the line certainly will be expanded as added capacity is needed.

Prairie Pipe to Operate

It has been rumored that a company will be organized to operate the pipe line under the joint arrangement, and that this company would be subsidiary to the Prairie Oil & Gas Co. and not the Prairie Pipe Line Co. Prairie Oil & Gas Co. officials, however, say that this is not so, and that the whole proposition concerns the pipe line end exclusively, insofar as management and operation of the line is concerned. The Praire Pipe Line Co. owns 51 per cent of the stock in the Humphreys-Pure Oil Pipe Line Co. It therefore controls the company, and will operate it.

Entrance of the Prairie into the tankship business as a means of moving its crude to market is only a remote eventuality in the minds of Prairie officials. Its plan is to deliver crude to customers at the Gulf terminus of the line, to be transported thence by the customers' boats. The possibility remains, however, that the Prairie can enter the tankship business whenever circumstances render it necessary or advisable, and thus can have the entire world as a po-

Drilling operations in Oklahoma, Kansas and North Texas

	Week Ending Dec. 12					Week Ending Dec. 5				
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	1	1	11	2	15	1	1	15	2	19
Other Osage	1	6	55	7	69	3	15	44	10	72
Bristow-Cushing	29	38	167	23	257	17	38	160	25	240
North Oklahoma	15	26	140	106	287	12	29	140	105	286
South Oklahoma	13	21	149	49	232	8	20	155	51	234
Muskogee	...	4	49	12	65	...	7	60	10	77
Okmulgee-Bristow	6	42	121	33	202	2	49	117	41	209
Tonkawa	...	2	10	2	14	...	2	10	2	14
Wewoka-Cromwell	4	9	102	19	134	7	17	98	12	134
Total Oklahoma	69	149	804	253	1275	50	178	799	258	1285
KANSAS	47	89	221	125	482	49	99	221	126	495
NORTH TEXAS										
Eastland County		9	42	4	55	...	1	42	8	51
Stephens County		14	37	11	62	...	13	34	8	55
Texas Panhandle		18	30	17	65	...	17	29	18	64
Mexia District		3	10	5	18	...	4	9	7	20
E. Texas Wildcats		3	11	...	14	...	...	5	9	14
W. Texas Wildcats		26	138	74	238	...	24	132	76	232
Wichita Falls		71	156	28	255	...	64	156	32	252
Total N. Texas		141	416	150	707	...	123	407	158	688
GRAND TOTAL	116	379	1441	528	2464	99	400	1427	542	2468

Completions in Oklahoma and Kansas, Week Ended Dec. 12

OKLAHOMA

Carter County

Company	Well	Location	Depth	Initial Production
Magnolia	8	C SW SE NE 23-2-3W	2084–2087	150
Amerada	19	SEc NW NE 28-5-1E	994–1008	10
Amerada	1	C SW SW SE 2-3-3W	T.D.3518	Dry

Creek County

Gled	1	SEc NE NE 14-19-8E	2374–2425 OWD	2M
Henry Karcher	1	SEc NW 36-15-7	2549–2565	8
Tibbens	2	SWc SE NE 34-15-8	2485–2537	15
Skelly	8	NEc SW 12-14-8	2389–2432	75
Phillips	2	NWc NE SW 13-14-8	2355–2279	5
Gypsy	14	SEc NE NW NW 6-18-12	2050–2072	120
Southwestern	4	NWc SE SE 18-14-10	2867–2896	175
P. & R.	1	SEc NE SE 18-14-10	2857–2879	125
Hall-Donnelly	1	SWc 20-14-10	2815–2825	9
Bartlett et al.	1	SEc 11-19-8	T.D.2926	Dry
Skelly	1	SEc SW NW 28-18-11	T.D.2710	Dry
Gypsy	2	NWc 6-18-12	T.D.2215 OWD	Dry
Quinlan et al.	1	SWc NW SW 17-14-10	T.D.3440	Dry

Garfield County—Garber

Cosden-Marland	55	C NE NW SE 13-22-4W	4391–4395	300
Sinclair	27	C SW SE NE 13-22-4W	4270–4315	2700
Carter	54	C SE NE NW 24-22-4W	4489–4496	312

Garvin County

Tex-Pac	2	SEc SW 16-1-3W	1659–1676	150
Hope-Wilson	1	C NE NE SW 17-1-3W	1580–1600	40

Grady County

Stogner et al.	3	C W½ NW SW 23-5-8W	2067–2466	30M
Carter	1	SEc SW SW 5-3-5W	2782–2790	25

Hughes County—Papoose

Atlantic-Bass	2	C NW SE SW 1-9-9E	3357–3365	15

Hughes County

P. & R.	1	C NW NW NE 28-9-10E	3117–3130	25M
Carter	3	C NE NE NE 19-8-10E	2705–2722	2½M
Gypsy	1	C SW SW NW 32-8-10E	T.D.4195	Dry

Jefferson County—Seay

Hambro-Humble	4	CNL NE SE 33-6-5W	1490–1531 OWD	110
Gypsy	6	C SE NE 33-6-5E	1456–1520	120

Kay County—Tonkawa

Cosden-Marland	9	C NW NE NE 33-25-1W	4247–4283	431

Kay County—Thomas

Marland	1	NEc SE NE 21-25-2W	T.D.4445 OWD	Dry
Selby	1	C SW SW NE 15-25-2W	T.D.4475	Dry
Brown	1	NEc SE 27-25-2W	T.D.2385	Dry

Kay County

Cortez	1	SEc NE SE 1-28-3W	T.D.4365	Dry

Lincoln County—Davenport

Magnolia	9	NEc SE NW 2-14-5	3284–3376	658
Selby-S. W.	9	NWc SE SE 3-14-5	3316–3385	350
Shaffer	1	NEc 10-14-5	3353–3422	42
Prairie	1	SEc NE SW 35-15-5E	3350–3382	162
Seaboard	1	C NE NE SE 18-6-5W	T.D.2803	Dry
Couche et al.	1	NEc NW NW 4-7-5W	T.D.3302	Dry

McIntosh County

Gypsy	1	SEc SW SW 17-10-14E	1470–1480	2M
Herbert	1	NWc SW NE SE 14-13-18E	764– 780	6M
Blakely	2	SWc 34-14-16	T.D.3057	Dry
Simon	1	NEc SE SE 32-16-15	T.D.1410	Dry

Okfuskee County

Amerada	9	NWc SW NW 13-12-11	2566–2596	18
Windsor	4	NEc 22-11-11	2037–2092	19½M

Okfuskee County—Papoose

Jennings et al.	3	C SW SE SW 33-10-9E	3087–3100	5
Amerada	1	C SE SE SE 36-10-9	3065–3078	12M
Independent	1	NEc SE NE 14-12-11	T.D.2605	Dry
Betty Ann	1	NEc SE 14-12-11	T.D.3534	Dry
Tidal	1	SWc NW SW 2-11-11	T.D.2887	Dry
Western States	1	SEc NW NE 14-12-8	T.D.3555	Dry

Okmulgee County

Prince et al.	6	SEc NW NW NE 27-16-13	1742–1756	1½M
Waite Phillips	3	SEc SW NW 14-15-11	2828–2838	35
Johnson	3	CWL SW SW 10-15-12	2629–2640	60
Morton	3	CSL SW NE 7-12-12	2452–2506	235
Pine	4	CNL NE SE 17-11-12	2400–2412	13M
Nicholson	1	SEc SW SW NE 14-11-13	1297–1305	12
Pulaski	8	SEc SW SW 36-12-13	2829–2834	375
Utah	1	NWc SE 15-13-14	2436–2441	400
Pine	5	NEc NW 18-15-13	2710–2715	400
Turman	3	CEL SE NE 10-15-14	845– 866	15
Sheridan	1	NWc SE 30-16-11	T.D.3096	Dry
Chief Drlg. et al.	1	NWc SE 29-16-12	T.D.2804	Dry
Edwards et al.	12	SWc NE NE 35-16-13	T.D.2653	Dry
W. Phillips	6	NWc NE SW 14-15-11	T.D.2836	Dry
McCarthy et al.	1	NWc SE 4-15-12	T.D.2667	Dry
Gowland et al.	1	SWc SE SW 9-13-11	T.D.3490	Dry
Cuseck	1	CEL SW NE 29-13-14	T.D.2570 OWD	Dry
Lambert	5	CNL SW SW 8-13-15	T.D. 785	Dry
Kirkland	2	NWc NE 21-15-13	T.D.2615	Dry
Lambert	2	CNL S½ SW NW 33-13-14	T.D.1910	Dry

Osage County

Barnsdall	5	NEc NW SE NE 15-27-10	1961–1967 OWD	25
45 Oil	39	CEL W½ NE 5-25-12E	1627–1653	25
Branstetter et al.	1	NEc SE NE NW 23-22-11E	1697–1737	5
Kewanee	7	SWc SE SW SW 19-21-12E	1667–1699	10
Elliott-Smith	20	NWc 30-21-12	2034–2048	35
West. American	1	SEc NW 14-29-8E	T.D.2225	Dry
Winona	1	NWc SW 20-22-12E	T.D.1643	Dry

Pawnee County

Mid-Cont	14	SEc SW SW 16-20-7E	2629–2647	40
Selby	3	NEc SE 23-20-8E	2811–2817	75
McMahon	4	NWc SW 24-20-8E	2801–2810	50
Victor	1	SWc SE NE 25-22-5E	T.D.3280	Dry

Payne County

Josey	2	NEc SE 35-19-5E	3492–3496 OWD	1½M

Pittsburgh County

Deaner	1	SEc SW SW 24-7-13E	T.D.4307	Dry

Pontotoc County

Lloyd-Smith	3	SEc NW NE 6-3-7E	1146–1165	30

Seminole County—Cromwell

W. Phillips	1	C SE NW SW 28-11-8E	3419–3458	102
Prairie	5	NEc SW NE 8-10-8E	3396–3422	20
Homa-Okla	1	NEc SW SW 20-8-8E	T.D.3540	Dry

Stephens County

Eagle Creek	5	SEc SW NE 26-1-9W	2210–2225	3M
Magnolia	19	SEc SW SE NE 33-1-8W	1938–1949	22
Magnolia	14	C NE SW SW 34-1-8W	975– 990	5M
Commercial	5	NEc SE SW 12-2-8W	1524–1531	50
Commercial	3	SWc SE NE SW 12-2-8W	1507–1520	200
Commercial	4	SEc NW SW 12-2-8W	1507–1522	200
Knox	1	SWc NW 12-2-5W	T.D.2620	Dry
Crump-Beard	6	CEL NW NW SE 32-1-8W	T.D.2014	Dry
Empire	4	SEc NW 32-1-8W	T.D.2051	Dry

Tulsa County

S. S. Home	3	SWc NW SE 13-19-11E	T.D.2219	Dry
Minshall	2	SEc NE NE 28-19-11E	T.D.2400	Dry
Newman	16	SEc NW SW 2-16-12	T.D.2448	Dry

Wagoner County

Neal-Cartwright	1	NEc 19-17-16	T.D.1010	Dry
McMahon	3	CSL SE NE 14-17-16	695–717	20

KANSAS

Butler County

Federal	5	CWL NW SW 29-26-8 E	2677–2759	35
Rogers	10	SWc SE NW 29-26-8 E	2700–2825	30
Cowpuncher	1	NEc SE 30-26-8 E	2677–2715	50
Phillips	1	NEc NW 16-27-6	3131–1336 OWD	50
Greenland	1	NWc 34-27-7 E	2738–2762	85
White Eagle et al.	1	SEc NW 20-24-8 E	T.D.2684	Dry
Miller et al.	1	NWc 31-26-8 E	T.D.2799	Dry
Sheldon et al.	1	NWc SW 6-26-7 E	T.D.2800	Dry

Cowley County—Rainbow Bend.

W. Phillips-Marland	3	NEc SE NW 21-33-3 E	3320–3228	350
W. Phillips-Marland	1	SWc SE 21-33-3 E	3259–3282	75

Cowley County

Lewis	7	NWc SW NW 31-30-6 E	T.D.3430	Dry

Chautauqua County

Renfro et al.	1	SEc NW 24-33-9 E	T.D.2537	Dry

Elk County

Watchorn	8	SEc NW 3-30-9 E.	T.D.2634	Dry
Anderson	3	C NW SE 16-31-9	1441–1458	7M
Theta	3	NEc SW SW 23-31-10	1301–1336	30
Frazier et al.	1	CSL SW NW 25-31-10 E	1356–1410	¼M
Theta	2	NWc NE NE 27-31-10	1353–1367	25
Theta	3	SWc NE NE NE 27-31-10	1200–1221	¼M
Neeley	1	NEc 29-31-10	1400–1402	25

Greenwood County

Tidal	6	NWc SE NE 11-22-11	1747–1808	200
Empire	3	NWc SE SE 15-22-11	1877–1914	105
Empire	5	SEc NE NE 16-22-11	1885–1904	75
Empire	6	NWc SE SE 24-23-8	2568–2599	150
Greenland	2	NWc NE SW 25-23-8	2511–2542	200
Robertson et al.	8	NWc SW NE 25-23-8	2566–2589	200
Phillips	6	NEc SW 19-23-9 E	2587–2631	30
White Eagle et al.	2	SWc NW SE 19-23-9	2526–2527	300
Foster et al.	1	SWc NW SW SE 7-24-12	1586–1604	20
Roth-Faurot	7	NEc NW SW 12-25-8	2295–2309	20
Roth Faurot	1	SWc NW SW 36-25-11	543–559	2½M
Texas	1	BWc 32-22-10	T.D.2520	Dry
White Eagle	1	SEc SW 18-23-10	T.D.2444	Dry
Leeward	1	NEc SE NE 27-24-9 E	T.D.2200	Dry
Cross	1	NWc 27-25-11 E	T.D.2218	Dry
Lewis et al.	1	NWc SW NW 5-25-13 E	T.D.400	Dry
Beacon	2	NWc NE NW 24-26-9	T.D.2300	Dry
Roth-Faurot	1	SEc NW NE 16-27-9	T.D.2728	Dry

Lyons County

Landon et al.	3	SEc NE 32-21-12 E	1880–1924	75
Phillips	1	NEc SE 32-21-12	1870–1895	75
Phillips	2	SWc NW 33-21-12	1880–1932	50

McPherson County

Transcontinental	1	SWc NW 1-19-5 W	T.D.3480	Dry

Marion County

Markham	6	NEc 8-22-4 E	T.D.2500	Dry

Woodson County

Iowa-Kans.	1	CWL NW NW 33-23-14 E	T.S.1655	10

tential market for its crude if it becomes necessary to go far afield to find buyers for it.

There is no doubt that the Prairie Oil & Gas Co. has taken some hard wallops during the past three years or so, during which time the incursions of cheap California crude and gasoline has caused it to lose a large part of its former eastern market. However, every fighter must be able to take hard wallops in order to send in some of his own, and the Prairie is by no means ready to take the count. One of the Prairie officials told the writer today that many people

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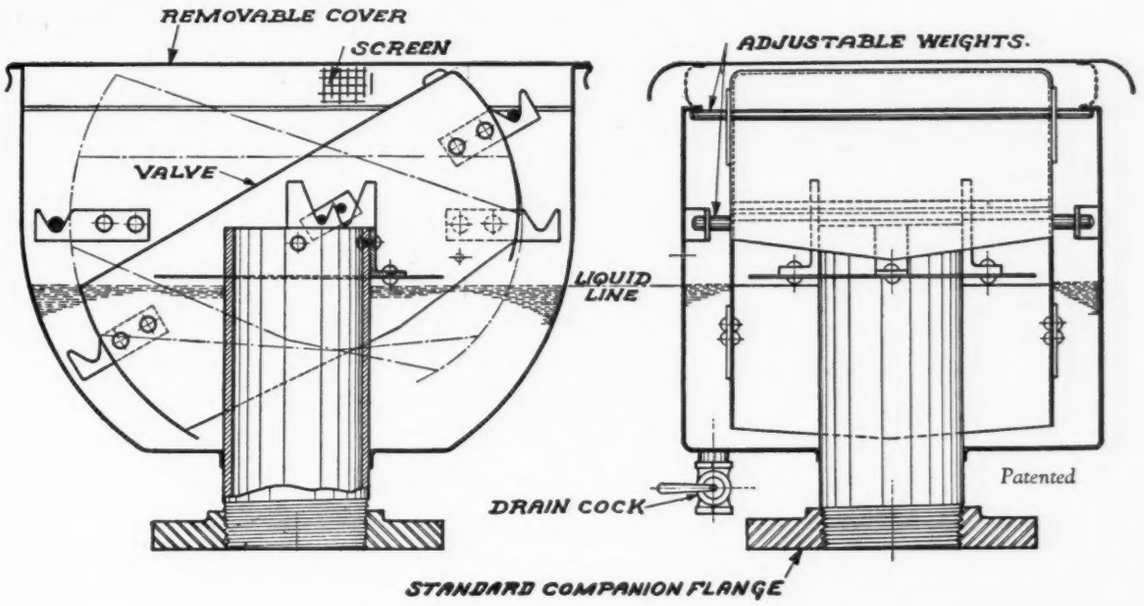

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OIL TANK OCECO EQUIPMENT

SAVES EVAPORATION AND PREVENTS FIRE

Completions in North and Central Texas, Week Ended Dec. 12

Archer County

Company	Well Farm	Location-Sur.	Depth	Initial Prod.
Staley-Wynn	1-Parrish	Geraldine	1573–1581	85
Fain et al	2-Wilson	ATNC 85	1515–1519	60
Staley-Wynn	3-Wilson	ATNC 88	1519–1532	225
Stewart	2-Crawford	Corzine	1021–1022	50
Gulf	2-Richardson	TEL 2424	1426–1448	110
Gulf	3-Richardson	TEL 2424	1440–1451	195
Pandem	2-Cockrell	TEL 2433	1446–1453	125
Sun	5-Richardson	TEL 2425	1441–1444	100
Trinity	1-Fee	TEL 2433	T.S.1300	25
Verschoyle et al	1-Young	TEL 2432	1442–1444	56
American	1-Portwood	TEL 1518	1381–1409	75
Texas	14-Hill	TEL 2408	1387–1390	60
Bridwell-Heydrick	6-Boren	Newman	1060–1078	100
Ramming-Sanders	Browning	German	T.D.1615	Dry
Grisham et al	1-Jackson	Aldridge 65	T.D.1601	Dry
Wharton-Nance	1-Tuberville	Carson 174	T.D.1543	Dry
Burns	2-Tabor	Dallas	T.D.1552	Dry
Sun	14-Farmer	Bell	T.D.1501	Dry
Major	2-Tuberville	Jefferson	T.D.1064	Dry
Gulf	4-Richardson	TEL 2424	T.D.1500	Dry
Merrick et al	1-Darlek	TEL 1582	T.D.1462	Dry
Prairie et al	31-Richardson	SAR 1	T.D.1358	Dry
Evangeline	2-Neil	Wayeisehauski	T.D.1208	Dry
Gulf	1-York	TEL 1583	T.D.1502	Dry
Murchison-Fain	1-Kunkle	BBB&C 4	T.D.1218	Dry
Sun	1-Schlagel	BBB&C 2	T.D.1313	Dry

Brown County

Greenwood et al	1-Westerman	Jones	T.D.1681	Dry
Landreth	1-Byrd	Travis	T.D.1500	Dry
Evans	1-Stone	Miller	1297–1318	50
Mulloy-Chandler	3-Stone	Miller	1287–1312	40
Simms	3-Gaines	Miller	1274–1289	25
Gillman-McMurray	3-Chambers	Smith	1200–1217	60

Callahan County

Cranfill-Reynolds	1-Cent. Ad.	Anderson	1447–1470	70
Guffey et al	1-Cent.	Anderson	1463–1473	100
Herbert	1-Cent.	Anderson	1464–1473	50
Weiler	1-Cent.	Anderson	1463–1435	35
Riddle	1-Cent.	Knight	1439–1442	50
Shackleford	1-Cent.	Knight	1450–1453	35
Cranfill-Reynolds	1-Cent.	Knight	1426–1429	70
Cranfill-Reynolds	1-Cent.	Knight	1433–1441	160
Bond et al	1-Haley Ad.	Anderson	T.D. 540	Dry
Jones et al	1-Cent.	Anderson	T.D.1470	Dry
Cranfill-Reynolds	1-Barr	Cherry	T.D.1625	Dry

Clay County

Sawyer et al	1-Hodges	Clark-Plimb	T.D.2001	Dry

Coleman County

Morrison-St. John	1-Young	Greer	1653–1655	17M
Duncan Trammill	1-Morris	Alexander	1683-T.D.	8M

Cooke County

Pettit et al	1-Williams	McKay	T.D.3600	Dry

Kaufman County

Company	Well Farm	Location-Sur.	Depth	Initial Prod
Cranfill-Griffiths	1-Mook	Ables	T.D.3337	Dry

Montague County

Pure	3-Maddox	Arnold	935– 944	70

Navarro County

Roxana	4-Bailey	Rahm		20
Tidal	2-Kent	Havens		3
Tidal	9-Thompson	Rahms	1608–1628	17
Farrish et al	4-Cerf	Smith	T.D.2973	Dry

Reagan County

Big Lake	48-Univ.	University 12	T.D.2920	1300
Big Lake	50-Univ.	University 1	T.D.3054	515
Texon	25-Univ.	University 36	T.D.2980	390

Shackleford County

Milham	1-Clausell	TEL 587	T.D.2453	Dry
Milham	3-Clausell	TEL	T.D. 730	Dry

Throckmorton County

Humble	1-Harrison	TEL 2354	T.D.4800	Dry

Wichita County

Hamon-Garrett	4-Waggoner	BS&F 11	1730–1740	65
Patterson et al	1-Lawrence	TC 16	TD.2336	Dry

Wilbarger County

Burton et al	2-Waggoner	H&TC 49	T.D.2004	Dry
Kimberlin	1-Castleman	H&TC 100	T.D.2518	Dry
Key-Levy	1-Waggoner	H&TC 58	T.D.2484	Dry
Beatty	1-Waggoner	H&TC 47	1934–1962	40
Pratt et al	1-Waggoner	H&TC 46	2322–2368	75
Humble	2-Waggoner	H&TC 46	1872–1882	150
Humble	2-Waggoner	H&TC 46	1860–1875	300
Humble	3-Waggoner	H&TC 46	1864–1867	250

Wilbarger County

Landreth	2-Waggoner	H&TC 43	1834–1857	300
Landreth	5-Waggoner	H&TC 43	1892–1912	375
Landreth	6-Waggoner	H&TC 43	1887–1900	375
Landreth	8-Waggoner	H&TC 42	1867–1883	450
Landreth	3-Waggoner	H&TC 46	1913–1927	300

Young County

Roxana	3-Burgess	Smith	2103–1230	25
Tidal	3-Campbell	TEL 919	908– 975	75
Tidal	6-Campbell	TEL 1583	920– 924	10
Tidal	7-Campbell	TEL 1483	900– 906	150
Texhoma	10-Campbell	TEL 1483	909– 915	56
Roxana et al	1-Stowe	Junker	T.D.1150	Dry
Tex-Unity	20-Sloan	TEL 232	T.D.1014	Dry
Tex-Unity	3-Sloan	TEL 232	T.D.1016	Dry
Gulf	1-Campbell	TEL	T.D.1108	Dry
Roeser-Pendleton	4-Cathey	TEL 68	T.D.1236	Dry
Plains	1-Farrow	TEL 1369	T.D.1102	Dry
Creath et al	1-Campbell	TEL 1452	T.D.1002	Dry
Parks et al	1-Brown	TEL 1478	T.D.1202	Dry
Sun	1-Bloodworth	TEL 214	T.D.850	Dry

were making themselves busy feeling sorry for the Prairie, but that perturbation does not extend to the Prairie itself. At least it does not propose to sit back passively and accept the loss of its market as inevitable. Its new Gulf outlet will give it a most valuable weapon with which to continue the fight.

Storing Oil Three Years

The Prairie has been putting oil in storage almost continuously for three years, according to its executives. Only for very brief periods in each spring during that time has there been any draft on stocks. It has stored all this oil, however, without having been forced to build steel storage tanks, as its enormous storage capacity had been practically emptied at the close of the World War. The company will not state how near full its tankage is at present, nor how much oil it is storing, but it is significant that one of the reasons given for passing its dividend a few months ago was the possibility that a tank-building program might have to be adopted unless conditions improved during the ensuing year.

Now that the Prairie is able to move crude both ways out of Oklahoma, the only thing necessary to make it and the whole Mid-Continent field happy is for California production to go away down and to do it quickly.

Garber Starts Week With Big Wells

Staff Special

TULSA, Dec. 14.—In the Garber field the bringing in of one new well and the deepening of another added more than 13,000 barrels of new production over Sunday and the field starts the week in the midst of a comeback which may prevent any further decline for a time.

Both the wells mentioned are on the Sinclair Oil & Gas Co.'s Hartley farm where No. 19, the first deep well on the lease started off at 18,000 barrels a day some time ago. No. 21 on this lease, a location east of the big well, is flowing at the rate of 7200 barrels daily in sand from 4250 to 4275 feet. No. 20, north of No. 19, made 3950 barrels Saturday but was deepened Sunday from 4248 to 4254 feet and is now flowing at the rate of 10,320 barrels daily.

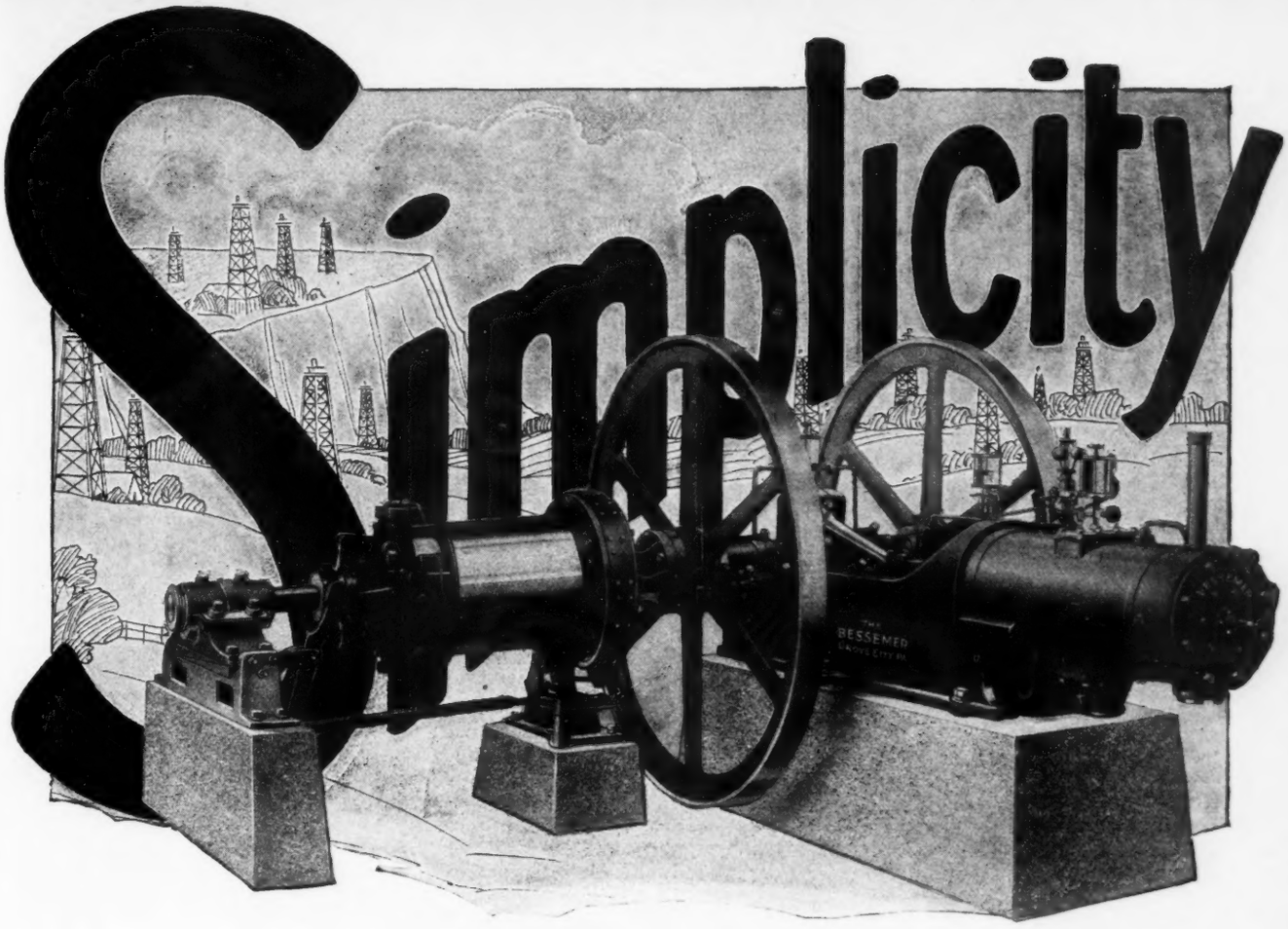
The big well, No. 19, is making 10,500 barrels of oil and about a thousand barrels of water daily. Total production of the deep sand is now about 47,000 barrels of oil daily and about 25,000 barrels of water.

These wells are the last on the Hartley farm for several weeks as the next deepest, No. 24, is standardizing at 3606 feet and will not be in for some time. The deepest test in the field is Sinclair's No. 26 South Walker, which set the 5-inch casing and cemented at 5415 feet and is drilling ahead.

Rules Against Western Refiners on Rates

WASHINGTON, Dec. 12.—R. L. Shanafelt, an Interstate Commerce Commission examiner who took the testimony in the complaint of the Western Petroleum Refiners Assoc., against railroads carrying fuel and gas oil from the Mid-Continent field to points east of the Indiana-Illinois state line and north of the Ohio and Potomac rivers, has recommended the dismissal of that complaint on a finding that the dates are not unreasonable or otherwise unlawful.

He said it was reasonable to believe the chief cause of the complaint would be removed when the railroads had complied with the commissions decision in what is known as the Indiana case because the making of rates in that case, he said, would have an effect upon rates to point east of Indiana. That decision, however, did not provide for the same estimated weights both east and west of the river. Parity of estimated weights was one of the things the Western Refiners asked.



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BESSEMER OIL FIELD ENGINES – COMPRESSORS – VACUUM PUMPS – ROLLER PUMPING POWERS

Make The Patent Office a Court And Dignify Its Examiners

By K. P. McElroy
Patent Lawyer, Washington D. C.

Reprinted from Journal of Industrial and Engineering Chemistry, May, 1921

Article 4

IT is a serious and perplexing situation to American inventors and manufacturers to whom a strong and virile patent office, playing the game according to the rules, is a business necessity. What we are going to do about it is not evident. Rehabilitation cannot be accomplished by the simple expedient of raising salaries, although it would help.

It is unquestionable that the good men in the office, of whom there are many, should receive salaries commensurate with their merit. But men of education and standing need something more than salary to keep them on the job; they require a certain amount of pride of place and dignity of position.

Obviously, if a man is merely paid what he is worth and what he can command elsewhere and there are no other inducements, inertia is all that holds him. The cold fact is that, quite apart from salary, to the man in the patent office the outside looks more attractive than the inside.

Intrinsically, the patent office is a highly dignified institution, going back to the Constitution for its warrant for existence. It has been the birthplace of many of our great industries, and there is none that does not owe it something. Its records are the records of our national industry. A fire in the old near-white building would be more terrible to industry than an army with Zeppelins. Its personnel is charged with duties requiring not only a knowledge of every branch of human endeavor, but of the principles of law as laid down in the statutes and countless decisions.

Actually, it is a mere bureau in the interior department bracketed with a miscellaneous lot of other bureaus, not to mention St. Elizabeth's Asylum and Howard University. What it is doing in that galley, or in any executive department, I do not know, since it is in no sense an executive branch of the government.

It executes no orders of the president or of congress—least of all, any by the secretary of the interior. Its employees are "examiners"; but Washington is full of examiners. I remember one time when I was in the patent office and we were short-handed, the powers that were, to whom all "examiners" looked alike, detailed some from the pension office to help out—with results which were chaotic. There is but little dignity in the title; and less official recognition than there ought to be.

The head of the patent office is a commissioner; but Washington is also full of "commissioners" of all sorts—of pensions, of lands of fishing of Indians, of education, and what not.

The Functions of the Patent Office

Under the Constitution the patent office is there to promote the progress of science and the useful arts; but it is to do it within the limits of certain statutes for that purpose made and provided. Therefore, its work is a blend or mayonnaise of law with science and technology. In the case of a patent, as with a contract, the wording is quite as important as the matter; what it covers depends upon what it says and how it says it, and not at all upon what it ought to say or mean.

A patent, to quote a good old Dr. Squibb's statement, is a "law of the land"; and it is not to be granted without due consideration of all the legalities. When an application is filed, whether the invention be in determining the parallax of the fixed stars, in curing meat, or in sewing shoes, it is first referred to examiners who are supposed to be expert in the particular art, familiar with everything that has ever been done in it, and prepared to understand the new thing; and to be able to apply their knowledge to it in view of the numerous controlling decisions in patent cases.

Which is a quite considerable requirement; but normally the patent office gets away with it. The examining branches, of which there are some 40 odd, are presumed to be manned by scientific and technical men of high standing, acquainted, among them all, with every branch of knowledge. The examiners are the judges (jury maybe would be a better term) of the fact. From them an appeal lies to a board of examiners-in-chief, members of which are appointed by the president with the consent of the senate.

Under the law, they must be persons of "competent legal knowledge and scientific ability." From the board, a further appeal lies to the commissioner, in person, who, therefore, in this capacity acts as a court of appeals. General Dyrenforth, himself at that time an assistant commissioner of patents, summarized the procedure neatly, albeit somewhat scurrilously, perhaps, in saying: "A case first goes to an examiner who knows the facts but not the law, then to the examiners-in-chief, who know the law but not the facts, and then to the commissioner who knows neither."

In all its functions, the patent office acts as a tribunal to try and ascertain fact and law. It settles the question of ownership as regards certain alleged treasure trove between the inventor and the public, or between rival inventors, as the case may be. The examiners are triers of fact, the commissioner settles the law, and the board tries both fact and law. In each and every activity, the patent office acts as an adjudicating body; not as an executive body. It is really a court and should rank as such; not as a bureau of an executive department.

The importance of all this is that very much depends industrially on the kind and quality of patents we are to grant; on the accurate working of our patent system. Bad patents, of which there are many, are as much of a public nuisance as good patents are of public benefit. All applications for patent should be as carefully scrutinized and examined as human ability will permit, and the interlocking team work on fact and law provided for by statute in the patent office should be at least as good as that on a baseball nine.

Any patent may furnish the basis for litigation, often bitter and prolonged, and the more there is of this, the worse. Well-drawn, proper patents, like well-drawn contracts, seldom get into court; they are respected. A good patent on a good invention seldom needs litigation; the respective rights of the inventor and of the public have been settled in the patent office, once for all. On the other hand, a weak patent on something of importance usually does go to court and proves expensive for the owner, the industry, and the public at large. Frequently in such a case, where the patentee is lucky, the courts by judicial interpretation give the patent the form and meaning in which it should have emerged from the patent office in the first place.

It is better for everybody that a patent, if granted, should be well granted. And to do this, it is necessary that the office be manned and headed by competent men taking pride in their work and working together.

What should be done, in my opinion, is to lift the patent office from its lowly

place in the interior department and make it independent, affiliating it with the judicial branches and not with the executive. I think it should be renamed the "court of patents," and headed by a judge taken from the federal bench; preferably a good crisp one. The examiners should be high-class men, looking forward to a career in the office, and with office conditions made attractive to them—much more attractive than they are now. All this will of course cost more money; but why not? It is not the government's cash or the taxpayer's cash—it is the money of those doing business with the patent office.

And those who pay the fees are entitled to get service for their money; service of a grade that they do not receive today.

The present fees are not burdensome, nor would the increase hurt anybody. But what's the use of providing more income to an institution that is already charging more than the value of the service it renders! Put the patent office on a better footing and then charge more.

It is simply absurd to take the money of the inventors and use it to run a post graduate kindergarten for patent attorneys.

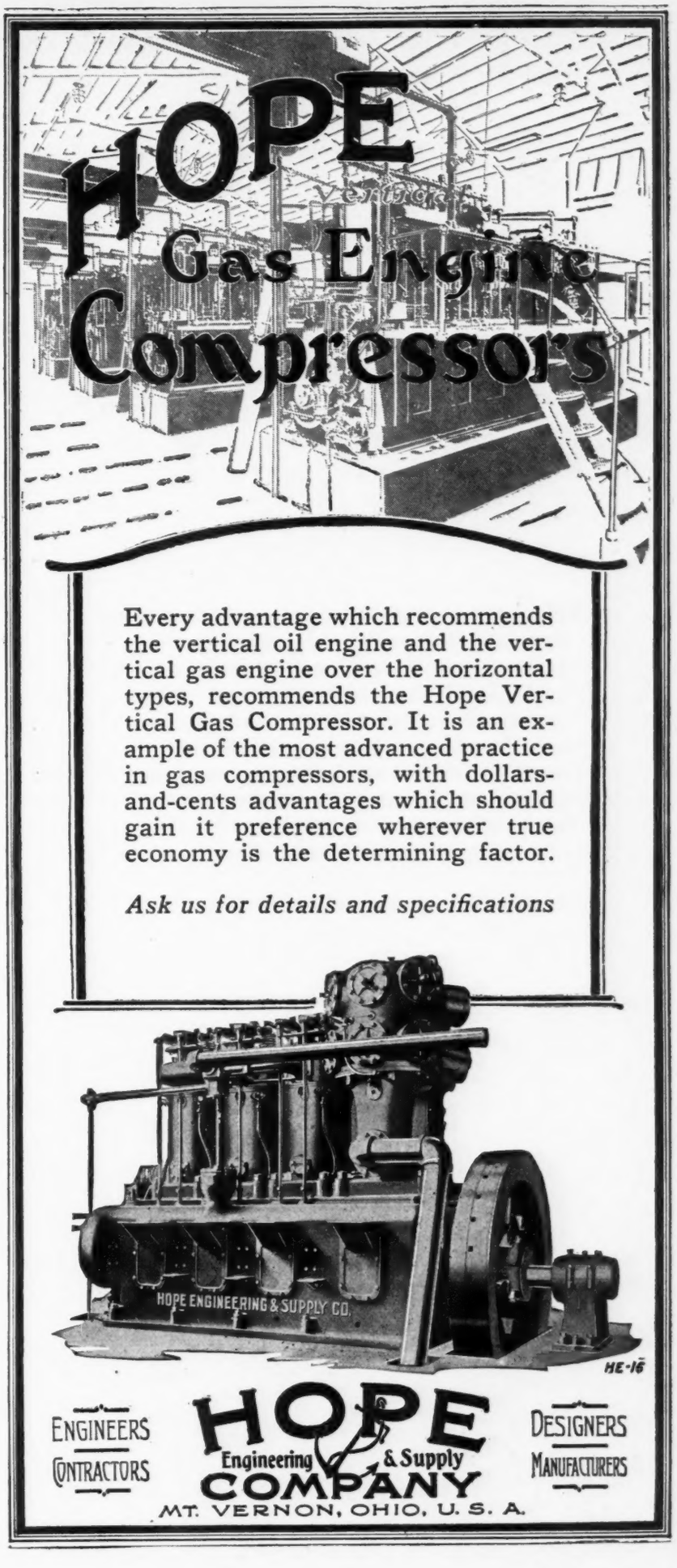
Geo-physical Methods in Oil Exploration Work

HOUSTON, Nov. 12.—John F. Weinzierl, geologist of the North American Exploration Co., First National Bank building, Houston, writes the Houston office of National Petroleum News regarding the use of geo-physical methods in oil exploration work as follows:

"The torsion balance, seismic, electrical and magnetic methods of localizing salt domes, faults, anticlines and other geological structures have all made their entry upon the field of exploration in the Mid-Continent and the Gulf Coast in the last five years. They have been tried out by several companies with different measures of success. At the present time, these companies have formed ideas based upon their experiences with these methods as to their values in locating hidden structures.

"Although there are differences in the experiences of some of the company managements as to detail application of these instruments the consensus of opinion is that if their limitations are known the instruments will prove valuable in solving the problems of sub-surface geology; and will help to eliminate haphazard drilling campaigns such as have been carried on from time to time.

"Some companies have called to their assistance experts of long years of experience with some geo-physical company, while others have taken upon themselves the task of developing methods of their own. This, then, brings us to the point of considering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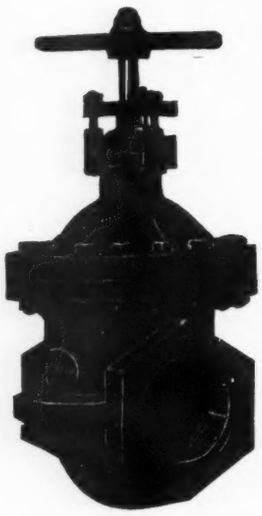

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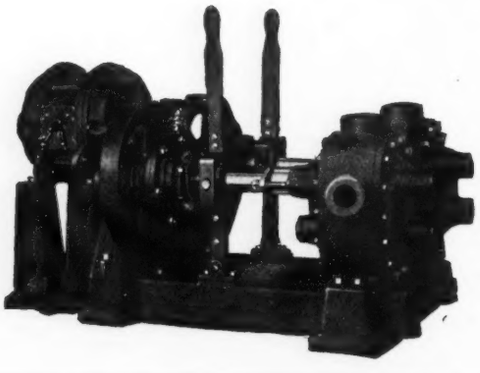
GEO. D. ROPER CORPORATION

Rockford, Illinois U. S. A.



which method is the better in the present stage of oil development.

"Such companies as have the means to undertake the work of establishing a scientific staff, working upon certain geo-physical methods which they have in a measure perfected, have met with some favorable results; but have spent much time and a great deal of money in preparation before they realized any appreciable results at all. This outlay of time and money carries with it one advantage, i.e., that the companies are the sole owners of their particular instrument and methods of procedure, as well as the experiences obtained in the period of preparation. This enables them to undertake to solve new problems as best they may in different areas.

"On the other hand, if the area in which operations are to be carried on constitutes a territory under rapid development it is impossible for the company which has developed its instruments along certain known lines to be ready to cope with the ever-increasing phenomenae of perplexing character.

"A really far-sighted company management operating with its own geo-physical instrument would bend its energy toward exploring structures bearing oil on the Gulf Coast that are not known to be salt domes. As the number of salt domes is undoubtedly limited and will be found, aside from a few scattered ones, in the next 12 to 15 months, it would seem to be a more far-sighted policy to be training the geo-physical staff of today against the problems they will have to solve tomorrow.

"For example, it is known that some of the big oil fields on the Texas-Louisiana Gulf Coast have, to a depth of probably 5000 to 6000 feet, no salt. This would lead one to think that the fields resulted from folding or faulting of the sediments caused by other agencies than the intrusion of a salt core.

"The fad of 'hunting salt domes' has prevailed for a number of years, because they were in great demand for exploration and because of their being relatively easy to find. As soon as this is over attention will be drawn to oil bearing structures which have no known connection with salt intrusions.

"Summing up the economic side of the geo-physical field we must consider the following points:

"(1)—The present salt dome area is limited as well as the areas in which the oil may be found.

"(2)—The time in which geo-physical work can be done in these areas is limited.

"(3)—The company that is foremost in its methods of exploration will gather about it the oil reserves that are still unknown.

"Bearing these points in mind it would seem to be more profitable to call to one's aid experts, whether individuals or organizations, who have had years of experience in dealing with the problems involved, than to spend valuable time in preparation."

Lubrication Chart?

Stops Mistakes in Painting

SHERWIN-WILLIAMS

PAINTING GUIDE
FOR THE
PETROLEUM INDUSTRY

TO PAINT

AUTOMOBILES
S-W Automobile Metal Primer
S-W Colors in Japan

BARGES
Steel:
S-W Kromik Primer
S-W Marine Hull Paints
Concrete:
S-W Concrete Hardener
S-W Marine Paints
Wood:
S-W Barge and Lighter

BUILDINGS AND DWELLINGS
Exterior:
Wood:
S-W Oil Station Paint
Brick:
S-W Concrete Wall Paint
Concrete:
S-W Concrete Wall Paint
Iron—Galvanized:
S-W Galvanized Iron Primer
S-W Kromik Primer
Interior:
S-W Flat-Tone
S-W Eg-Shel Mill White
S-W Inside Floor Paint

CONCRETE TANK FOUNDATIONS AND CEMENT BASES
S-W Concrete and Cement Hardener
S-W Concrete Floor Paint
S-W Concrete Wall Paint

DERRICKS
Steel:
S-W Kromik Primer
S-W Ebonol
Wood:
S-W Ebonol

FENCES
Metal:
S-W Kromik Primer
S-W Tank Paints
Wood:
S-W Oil Station Paints

HOLDERS—GAS
S-W Kromik Primer
S-W Aluminum Paint
S-W Tank Paint

MACHINERY
S-W Oil Proof Machinery Paint

METAL SURFACES—EXPOSED
S-W Kromik Primer
S-W Oil Station Paint
S-W Metalastic

PIPES—STEEL UNDERGROUND
S-W Ebonol
S-W Plastic Pipe Coating

POLES
Wood:
S-W Pole Paint
S-W Oil Station Paint
Metal:
S-W Kromik Primer
S-W Metalastic
S-W Tank Paint

PORTABLE BUILDINGS
Metal:
S-W Kromik Primer
S-W Oil Station Paint
S-W Metalastic
Wood:
S-W Oil Station Paint

ROOFS
Paper:
S-W Ebonol
S-W Liquid Roof Cement

ROOFS—Continued
Tin:
S-W Roof and Bridge Paint
S-W Tank Paints
Galvanized:
S-W Galvanized Iron Primer
S-W Kromik Primer
S-W Tank Paints
S-W Roof and Bridge Paint
Shingle:
S-W Preservative Shingle Stain

TANKS—STORAGE
Steel:
S-W Kromik Primer
S-W Tank Paints
S-W Aluminum Paint
Bottom:
S-W Ebonol
S-W Elastic Cement Coating
Filling Station (Underground):
S-W Ebonol
S-W Elastic Cement Coating
Concrete Storage:
S-W Concrete and Cement Hardener
S-W Concrete Oil Proof Coating No. 121

TANK CARS
Steel:
S-W Kromik Primer
S-W Tank Car Paints
Underframes:
S-W Underframe Black

TRUCKS
S-W Automobile Metal Primer
S-W Sur-Fas-Rite
S-W Colors in Japan

TO VARNISH

AUTOMOBILES
S-W Automobile Enamel Clear
S-W Wearing Body Finishing
S-W Motor Truck Finishing

BARGES—STEEL
S-W Rexpar

BUILDINGS AND DWELLINGS
Interior:
S-W Scar-not

MACHINERY
S-W Rexpar

TRUCKS
S-W Auto Enamel Clear
S-W Wearing Body Finishing
S-W Motor Truck Finishing

TO ENAMEL

AUTOMOBILES
S-W Opex Lacquers and Enamels
S-W Auto Enamel
S-W Old Dutch Enamel

BUILDINGS AND DWELLINGS
Interior:
S-W Old Dutch Enamel
S-W Enameloid

MACHINERY
S-W Lustral Enamel

TRUCKS
S-W Opex Lacquers and Enamels
S-W Auto Enamel
S-W Old Dutch Enamel

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We See By The Papers—

Conscious and unconscious humor concerning the oil industry from the press of the nation.

National Petroleum News

What A Comfort to Lewis and Clark Had They Known About This Manufactory

The Bloomington, Ill., Bulletin, reveals how the Standard Oil Co. of Indiana came to pick the site for its Wood River, Ill., refinery.

Then, in 1911, the Standard Oil company wanted to erect an oil refinery on the east side of the Mississippi river and chose the present site of Wood River for the spot. Here a pipe line, with its south terminal in Oklahoma and its north terminal at Whiting, Ind., was placed under the Mississippi river at the same point where Lewis and Clark camped for a long, cold winter preceding their eventful journey up the Missouri one hundred and eight years before.

Big finance turned watermelon patches into a mile-square manufactory. Rows of stills were constructed, condensers were put up, clarifiers and pumping stations, a million dollar power plant, hundreds of huge steel tanks, and miles of storage and loading tracks were laid.

* * *

Solves Conservation Problem

No need to worry any further about motor fuel supplies for the future. The La Salle, Ill., Post tells how it will be done by blowing coal dust into the cylinders.

It now looks as if our internal combustion engines will burn coal when petroleum plays out.

French engineers are considering an engine that would burn coal directly, feeding into the explosion cylinders in finely powdered form, very much as powdered coal is now fed into the fire boxes of some of our latest steam plants.

Less revolutionary plans look to the extraction of the combustible part of coal in liquid form, by distillation and chemical treatment. Various processes are now being worked out in Europe, England, France, Germany and Holland are busy with the problem. It is a very practical matter there, because of the shortage of petroleum and the high price of gasoline. And there seems to be no doubt that ordinary coal can be made to render up large quantities of explosive liquid fuel comparable to our volatile petroleum extract.

This is the most reassuring phase of the "gas" situation. The coal supplies in America, as in Europe, though far from inexhaustible, are very much greater than the oil supplies. In another decade or two our coal mines may be feeding our gas engines as they have hitherto fed our steam engines.

The Sun Dial

(As published by The Sun, N. Y.)

The Tendency in Gasoline Stations

AN American community is known by the gasoline stations it keeps. And while a man's home may be his castle he finds it hard to believe so when he compares it with the impressive edifice the oil company has erected down the street.

* * *

Once the outstanding buildings of a town were its Library, City Hall, Masonic Hall and Post Office. To-day they are the pumping stations erected by rival gasoline companies. Disappearing from the best corners are the old colonial dwellings of the leading citizens and in their places are rising the finest and most imposing show places that gas at 25 cents a gallon can buy.

* * *

The busiest architects in America are the ones specializing in designing Tudor type, Moorish, Flemish, early Italian, late Greek or medium Dutch gas stations.

* * *

Once upon a time if a prominent and wealthy citizen, about to cash in his chips, wished to leave something in his memory he would bequeath the community a sum for the Lucius W. Whortleberry Memorial Library. To-day if he would hold posterity's eye for a split second he leaves money for the Lucius W. Whortleberry Memorial Filling Station — "Free Crank Case Service—Drive In."

* * *

The modern gasoline structure makes the Courts Building, Student Quadrangle and Federal Post Office look positively cheap and scrubby.

* * *

You can't peep at one of these up to date pumping stations with its de luxe architecture, gravel driveways and wealth of landscape gardening without expecting to see a duke ease out of the main doorway followed closely by the duchess and a pair of white wolfhounds.

* * *

They are architecturally so much like some of the finest estates in town that in a Long Island suburb the other day two carloads of guests invited to a party at the home of a millionaire spent the week end at a filling station before they realized they were on the wrong lot.

* * *

And very frequently in the suburbs parties of motorists drive up to private estates and demand ten gallons of gasoline and a quart of medium oil.

* * *

It is freely predicted that if the struggle for a smart atmosphere at gasoline stations continues unabated the attendants may be made to wear formal attire and given orders to admit no motorist to the pumps except by invitation.

* * *

"Who's Who" in identifying a famous architect may say something like this:

"Seagull, Octavius B., born Perth Amboy, 1887; educated Koster & Bials; best known as designer of the Ignatz R. Rock Refilling Station, Cos Cob, Conn.; the Wheedle Brothers Good Gas Group at Springfield, Mass.; the Luther P. Sapp Free Air Building at Canarsie and the Plaza for the Sokony Villa at Delaware Water Gap."

The cartoon usually appearing on this page, on account of its appropriateness to the holiday season, has been selected for our cover design this week.

The Editor's Viewpoint

National Petroleum News

Foresight Brings Big Returns

OIL marketing companies, particularly the smaller ones, and most companies at their smaller bulk stations, do not appear to be giving as much attention to the proper spacing of storage tanks as they should. Tanks are not only placed too close together, but in many cases, they are placed too close to the adjoining property line.

It is generally better to anticipate trouble when one is planning a station than to have to face it years after it is built, when adjoining property either has become more valuable, or worse still, is well built up.

Oil companies should consider tank spacing not only from the standpoint of their own safety and keeping down possible fire losses, but also from the standpoint of avoiding, as much as possible, interference by the public through regulations. Most bulk stations are out at the edge of town where property is cheap and in a great many cases where there isn't going to be much building done. Nevertheless, towns grow unexpectedly and many an oil company has found a station, which was built out in the country, completely surrounded by a residence or business district within 10 to 20 years time. When the station was first put in, land was cheap, and a few hundred dollars more would have gotten that company enough land to give ample spacing between tanks and the property line.

However, when the years had elapsed and the property had become valuable and was built up, the company would be seriously embarrassed either by the necessity of paying more money for land, or putting in expensive improvements, or moving the station entirely.

We, of course, do not agree with the general hue and cry of the average outsider to the oil industry as to the alleged hazards of an oil plant, nevertheless, we do believe that it is extremely desirable for an oil company to give a little thought to spending a few hundred dollars more when a plant is being constructed and when property can be obtained cheaply, than to get into expensive trouble later on.

The oil industry through a special committee of the American Petroleum Institute, has been fighting for some years to get the distances given in these regulations reduced. The industry is hopeful of winning that fight, until the fight is won the industry must bear these regulations in mind.

At the present time a 12,000 gallon vertical tank of gasoline should be at least 30 feet from the line of adjoining property which may be built upon—an 18,000 gallon tank should be 40 feet—24,000 gallon tank 50 feet and a 100,000 gallon tank 100 feet. The regulations require that these tanks shall be of good, first-class construction, built of good material, properly vented with no combustible material around them.

The big oil companies have for some years given up trying to buy the cheapest tanks and the lightest tanks made. They have been buying heavier tanks than has been the custom in previous years and these big oil companies say that they find it pays in cold dollars and cents. Even the smaller oil companies should bear in mind that a good, first-class, well-built tank with heavy enough material is a good buy even though it may cost a few dollars more. A flimsy tank can get a station into all kinds of trouble in the event there is any fire anywhere near it—besides a flimsy tank is always likely to spring a leak from rust and other causes.

Some oil companies are also a bit careless about letting combustible material accumulate around a tank. Some build sheds within a few feet of a tank—others accumulate barrels around a tank—let the grass grow and so on. These oil companies are not giving that tank any chance at all in case of a fire, because it's this combustible material that will burn and if it's around the tank, it's going to turn that tank into a still—that means that the liquid will be boiled—the vapors will be generated much faster than even a very large vent can give them off and the tank may rupture.

Some oil companies put their tanks on wood supports—this is bad—because those frame supports can burn and even though they burn slowly, they will burn. You not only turn the tank into a still, but when the supports are burned out, they will drop the tank on the ground. Even steel supports for horizontal tanks are not approved by the fire insurance people, nor by the engineers of most of the big oil companies. Some states forbid their use. We realize that they are strong and inexpensive but the complaint is made by engineers that in case of any heat near those supports, they are liable to buckle and drop the tank.

As to distance between tanks, there should be at least three to five feet for the smaller tanks and 10 to 15 feet for the larger ones.

In grouping a bunch of gasoline, kerosene and lubricating oil tanks, it may be possible to use the lubricating and kerosene tanks as a protective wall around the gasoline tanks. One could also rather separate one gasoline tank from another by a lubricating tank. Small kerosene tanks should be kept the same distance from adjoining property as small gasoline tanks. It would be desirable if lubricating tanks were kept substantially the same distance, although that is not so important. Frequently a company finds it desirable to change its storage from one tank to another—hence to clean out a lubricating tank and use it for gasoline at times. So all tankage should be put where it could give the maximum service.

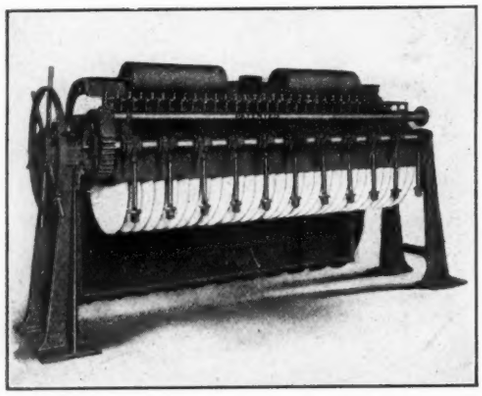
Err a little bit on the side of greater safety. Buy a little bit more land, or take an option on it, so that you can buy it later on when you may have more money. Buy nothing but good, first-class, well built equipment to put on that land. Keep your buildings away from your tanks, as well as keep all other combustible material away from them. Fire is much more likely to start around buildings because there is where human beings will be—there is where vapors may accumulate—there is where matches may be used—also a heating stove.

Bear in mind that the contention of the best engineers of the oil industry is, and they have a wealth of data to prove it, that a well built, vapor tight tank, properly vented and kept clear of combustible material is remarkably free from fire hazard, because there is no chance of fire getting to it and if fire should get to it, all that will happen will be that it will burn at the vent. You could put your hat down over that flaming vent and put it out.

But it must be a good tank, well built, of good material, properly vented and kept clear of all combustible material.

Build your stations for tomorrow rather than just for today. It will pay you good money in the long run—W. C. P.

This Filter is Creating New Selling Points for Lubricating Oils



If you can say it—this makes a powerful advertising and selling point when directed at the potential users of your lubricating oils:

"This Oil Resists High Temperature"

"By a new process, it is possible for us to treat oils at high temperatures which tends to make them more stable under the high temperatures in your engine."

The "new process" is contact filtration with the Sweetland Pressure Filter which not only permits treatment at high temperature, but also obtains higher clay efficiency and produces oil that is sparklingly brilliant and clean.

A Decided Saving for the Oil Refiner

In most cases you can make a contact filtered oil of a better grade for the same price it costs you to produce *unfiltered oil* of the same color. Treatment losses are reduced with a saving in acid — emulsion troubles are removed with the elimination of caustic neutralization—blending to color is unnecessary.

Installation Cost Low— Operation Cheap and Simple

Sweetland Filters have such large capacities for the small space occupied that replacement of a complete existing installation is usually practical and economical. One Sweetland Filter installation has a capacity of 1000 barrels a day, and only occupies a one story building measuring 40 by 60 feet. It cost only $70,000 complete and does the work of a plant which cost $300,000.

Write us for further information. Contact filtration with Sweetland Pressure Filters is applied to gasoline, neutrals, wax, cylinder stocks, bright stocks and reduced crudes (long residuum). Our engineers will be glad to work with you in adapting the process to your products.

American Continuous Filters
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Deeper Drilling Is Required To Test All Mississippi Possibilities

By Paul Wagner
N. P. N. Staff Writer

Article 3 in a Series on Producing Possibilities of Southeastern States

POSSIBILITIES of petroleum production may be considered to exist elsewhere in Mississippi than in the Vicksburg-Jackson area and the close-in region gulfward from the outcrops of Cretaceous strata in the northeastern part of the state. Evidence on which to base conclusions is, however, more obscure in other parts of Mississippi than it is in the two parts of the state first mentioned.

An earlier article, No. 2 of the present series, dealt almost entirely with structural conditions in the Vicksburg-Jackson area and with prospects along the surface contact of Midway-Wilcox beds in northeastern Mississippi. The present article will take up other divisions of the state, retracing enough of the data on the two areas previously surveyed to round out the discussion of Mississippi possibilities.

The Ripley, Eutaw and Tuscaloosa formations, all of which correlate with Cretaceous beds yielding oil in north Louisiana, south Arkansas and east Texas, are the principal sources from which petroleum may be expected in Mississippi. In their order, they correspond to the Nacatoch, Blossom and Woodbine sands of the producing areas mentioned. The Selma chalk, which is found below the Ripley formation, corresponds to the Austin chalk marker bed of the east Texas territory and its equivalents in Louisiana and Arkansas.

Lower Claiborne beds of the Eocene Tertiary, which yield oil in small quantities in the Nacogdoches, Texas, and Urania, La., fields, may possibly prove the source of petroleum in parts of Mississippi; as the beds are of marine origin and they have undergone considerable structural deformation.

Possibilities in the Lower Claiborne are to be considered at their best 50 or more miles gulfward from the outcrop area, which is numbered 8 on the accompanying map of the geology of Mississippi. There the beds would be found under heavy cover capable of exerting its influence upon the origin and accumulation of oil.

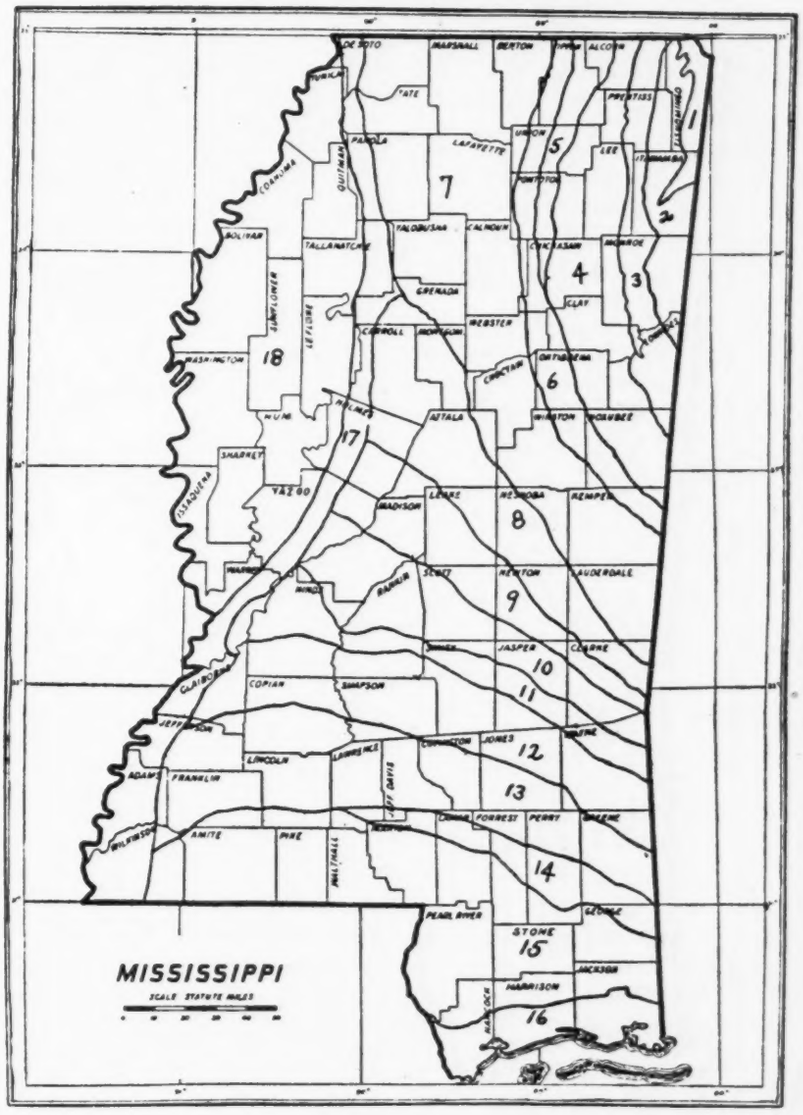
The Vicksburg-Jackson area, which is most important for Eutaw and Tuscaloosa sand possibilities, comes into consideration also in any survey made of the shallower Claiborne horizon. This area has been dealt with exhaustively in the preceding article, which drew freely on data contained in the ninth biennial report of Dr. E. N. Lowe of the Mississippi Geological Survey and Bulletin 614-D of the United States Geological Survey, by Oliver B. Hopkins.

No further comment is pertinent at this time on the Vicksburg-Jackson area except to mention that aside from the Lower Claiborne beds the principle source of oil to be produced would be the Cretaceous sediments at the following approximate depths near Jackson:

	Depth (feet).
Ripley (Nacatoch)	2500-3000
Eutaw (Blossom)	3500-4000
Tuscaloosa (Woodbine)	3800-4300

Although data are inconclusive and the writer disclaims any attempt to definitely place a large-throw fault in the region

Sketch Map of Geology of Mississippi.



LEGEND:

Palezoic	*1. Mississippian*	*Oligocene*	*11. Vicksburg*
	2. Tuscaloosa		*12 Catahoula*
Cretaceous	*3. Eutaw*		*13. Hattiesburg Clay*
	4. Selma Chalk		
	5. Ripley	*Miocene*	*14. Pascagoula*
	6. Midway	*Pleiocene*	*15. Citronelle*
	7. Wilcox	*Pleistocene*	*16. Coastal*
Eocene	*8. Lower Claiborne*		*17. Loess*
	9. Upper Claiborne		
	10. Jackson	*Recent*	*18. River Alluvium*

east of that mapped by the U. S. Geological survey as the Vicksburg-Jackson area, the recent completion of the deepest well in Mississippi either indicates such a fracture to exist or it complicates the geology of the state as it has been previously understood.

The deep test referred to is the No. 1 Graham of Day Brothers et al, operating as the Mississippi Oil & Gas Syndicate, one mile south of the town of Forest, in Scott county, in the northeast corner of the southeast of the northeast of 21-6-8, which at 5115 feet had passed through the Selma chalk into a few feet of dry sand. This sand, Dr. Lowe considered, probably corresponds to the Eutaw (Blossom) formation.

East of Fault Evidence

The test well is located a little north and about 30 miles east of a point on Richland Creek, about one half mile downstream from the crossing of the Brandon-Florence road, where Oliver B. Hopkins found evidence of a fault in the Vicksburg-Catahoula beds of Oligocene age.

Breaks in strata, called faults, are not believed to be common in Mississippi and Hopkins found evidence of only two in the Vicksburg-Jackson area. One was that occurring on Richland creek, about five miles southwest of Brandon, and the other on Pearl River below Jackson.

Hopkins mapped a thick bed of Catahoula sandstone as crossing Richland creek and dipping at a high angle to the north; the outcrop being between two exposures of the Vicksburg on the same creek and appearing, he said, to represent a part of the Catahoula formation exposed in the bluff of the creek. Its abnormal dip is believed, he said, to be due to a fault.

At Richmond Lake bluff on Pearl River, five and a half miles by airline below Jackson, Hopkins found a prominent exposure of bluish calcareous clay with thin layers of earthy limestone of Jackson formation dipping at the abnormal rate of 5′-6′ S.

This steep dip appears to continue for some distance downstream, Hopkins said, and in the northwest quarter of the northwest quarter of 10-4N-1E, near the upper end of Steamboat Bayou, 30 to 40 feet of the overlying sand is exposed. Here the river bottom contains numerous silicified logs, which appear to have weathered out of the sand, a bed in which they were abundant.

Around the bend to the east, Hopkins again found the underlying gray calcareous clay, suggesting to him that the aforementioned abnormal dip is due to an eastward trending fault which has a down throw on the north side that brings the "Madison sand" into contact with the underlying Yazoo clay of Lowe.

Other Evidence Put Forward

As further evidence of this break, Hopkins cited that one half mile below the supposed fault a long exposure in the west bank of the river shows a number of small faults which have throws of a foot or less, with the downthrow on the north side.

Data are all too meagre in this territory to suggest the existence of large-throw faulting of the type peculiar to the Mexia-Powell fracture zone of central east Texas, but if proved to exist in the territory east and north of Jackson it might very well form the background of important oil accumulations along the upthrow side of the fault.

The parallel cannot be too closely drawn in an attempt to compare the east side of the Mississippi embayment, in the state of Mississippi, with the west side of the embayment in Texas. In the Mexia-Powell producing belt, almost all oil fields are located near the contact of the Midway-Wilcox beds at their surface outcrop. On the accompanying sketch map of the geology of Mississippi such a contact conforms to the line separating areas numbered 6 and 7.

In Montgomery county, near the point where the Lower Claiborne forms its surface contact with the Wilcox, a test of the Preston Oil & Gas Co., No. 1 MacLean, in the southwest of the northeast of 15-19N-6E, near the town of Winona, was abandoned June 21, 1921, at 4260 feet, after reaching the Tuscaloosa (Woodbine), where it had first an abundance of salt water and then a flow of fresh water.

East of the Midway-Wilcox contact line, hereinbefore mentioned as separating areas 6 and 7, both the Tuscaloosa and the Eutaw formations yield potable waters at varying depths below 1000 feet. Certainly, these beds may not be regarded as having petroleum possibilities north and east of such a line.

Possibilities on Paleozoic Beds

The Paleozoic beds, in area No. 1, which mark the southwesterly extension of the old Appalachian uplift into Mississippi, dip off too abruptly to have oil possibilities except in the extreme northeastern part of the state.

Both the Clinton formation of Silurian age and the Trenton of Ordivician time are easily accessible in Tishomingo, Itawamba, Prentiss, Lee, Monroe and Lowndes counties. A test drilled near Iuka reached the Clinton horizon at between 800 and 1000 feet and the Trenton at 1300 to 1400 feet. Neither horizon proved productive. The Chattanooga black shale (Devonian) lies above the Clinton horizon and is petroliferous, but Lowe has described it as "apparently too thin and dense to yield oil except as a show."

The Hartzelle sandstone of the Upper Mississippian, he says, is highly petroliferous at its outcrops in northeast Mississippi and northwest Alabama, but lying at the surface the volatile hydrocarbons have been lost and only the concreted base remains; "blackening the rock and sweating from it under the summer suns."

Cretaceous Dips Rapidly

As the Tuscaloosa sands of the Cretaceous dip away from their outcrop around the old Paleozoic rocks at 25 to 30 feet to the mile it will be readily apparent that horizons below the Cretaceous sink beyond the reach of the drill in a short surface distance.

The Tuscaloosa beds consist of sands and gravels with interstratified shales, having a thickness of 400 to 600 feet. The outcropping sands, so far as at present known, show no seepages or other evidence of oil in the formation. The presence of potable water near the outcrops suggests deposition under conditions unfavorable to oil nearby, but if interrupted by large-throw faulting downthrown to the north the beds might very well bear relation to oil accumulations under conditions similar to those existing in the Mexia-Powell fault zone of Texas.

Various beds in their stratigraphic succession upward are described as follows by Dr. Lowe:

"The Eutaw sand, which lies immediately above the Tuscaloosa, is a marine sand formation with some interstratified clays and shales toward the base. The sands are bluish to greenish, medium fine-grained, and fossiliferous. This sand lies immediately beneath the Selma chalk, and probably represents in this territory the Blossom sand west of the Mississippi River. While the Eutaw is uniformly a fresh water sand beneath the prairies of northeast Mississippi, it has apparently been the source of distinct oil and gas shows in several wells in that part of the state. Hence, under favorable structural conditions it gives promise of yielding oil in commercial quantity. The well of the Minyard Oil Well Co. at Wallerville, Union county, struck a pronounced show of gas with some oil immediately on passing through the chalk into this sand.

Chalk Beds Negative

"The Selma chalk, as the name would imply, is a dense, soft, or semi-indurated limestone, and is of too dense texture to present possibilities as an oil horizon.

"The Ripley formation, lying immediately above the Selma chalk, consists of limestones, marls, and sands, all marine in origin. It corresponds approximately to the Nacatoch sand of Louisiana and Arkansas, and this, together with its marine nature, makes it a possible horizon in this territory, though there is a notable absence of shales which could be a source of petroleum in the formation. So far, tests in this state have not reported oil shows from the Ripley.

"The coarse basal sands of the formation, from 200 to 250 feet thick, would form a good reservoir for storage of petroleum under favorable structural conditions. This thick sand member extends into the state from Tennessee, and can be traced southward as far as New Albany, Union county, possibly as far as Houston, in Chickasaw county; but there is no evidence that it extends farther south.

Tertiary Horizons

"In this country the Tertiary formations have so far proved to be barren of petroleum, though in foreign territory they are a rich source of oil. Numerous wells drilled both for oil and water have penetrated these formations in Mississippi without producing oil,

That Bottle of Lithia Water . . .

Clear and still it sits before you, but loosen the cap and—pow! Millions of bubbles of gas rise up from seemingly nowhere and blow out the top into space. Once this gas has escaped the life of the water is gone.

That is what happens with the oil well. Millions of feet of gas, imprisoned for centuries, rush forth, taking with it the life and pep of the crude oil.

This energy must be put back to obtain the highest quality motor fuel. The only practical means of returning it is NATURAL GASOLINE.

It is our business to save the gas at the casing head—gas that would otherwise be wasted—condense it that it may be put back into the commercial gasoline to make a perfect volatile motor fuel.

CHESTNUT & SMITH
CORPORATION
TULSA OKLAHOMA.

though in a few places a 'show' of petroleum was encountered.

"The Midway formations are marine in character, and in certain horizons present thick beds of shales or clays containing considerable evidence of the presence of organic matter. Remembering these facts, when favorable structures are drilled, the sands of the Midway should always be carefully tested.

"The same may be said of the Wilcox, which has abundance of sands and shales, but the formations for the most part seem to be of fresh water deposits.

"Perhaps the most promising Tertiary horizon of petroleum in the state is the Lower Claiborne, which is marine in origin, has sufficient shales and abundance of sands, and has undergone considerable deformation.

"The area of outcrop of each of the above mentioned formations can be noted by reference to the sketch map. Whatever possibilities the Claiborne sands may have will be found 50 or more miles south of the area of outcrop, where they lie under heavy cover. We have reason to believe that very good 'oil shows' have been found in the Claiborne in wells in south Mississippi.

The Finkbine tests, referred to in Article 2 as being drilled off the Jackson anticline to the southeast, are generally considered to have been unfavorably located with regard to local structure; although they were put down in territory where bedding characteristics are favorable if drilling is carried to sufficient depths.

Farther east, the finding of the Selma chalk at the great depth there proves the unfavorable location of the Graham test, although subsequent drilling may indicate this failure to have importance for the light to be thrown by it on geological conditions. This statement is especially true should it develop that the Graham test was drilled on the downthrow side of a major fault.

A test drilled to 5120 feet near Kreole, Jackson county, by the Great American Oil Co., and other deep operations in Jackson and Forest counties, call for only minor consideration at this time. Beds below the Eocene Tertiary dip too deeply toward the Gulf for the drill to reach them in that part of the state unless brought upward toward the surface by salt plugs, such as exist in Gulf coastal Texas and Louisiana.

No such salt domes are known to exist east of the Mississippi river, and until similar structures are indicated in the region bordering the Gulf of Mexico the southern part of the state of Mississippi will be given scant consideration for petroleum possibilities.

An accompanying table showing results of test drilling in Mississippi may be studied with relation to the detailed data it contains and the geological sketch map on page 55. Together they provide a general key to work already done in the search for petroleum; and coupled with the information contained in the foregoing text it is possible to form broad conclusions regarding the future.

Results of Drilling Operations for Oil in Mississippi

Company—Farm	Location	County	Date Begun	Depth Feet	Remarks
Amite Oil Development Co.					
No. 1 Little	33-2N-4E	Amite	9-26-23		
Home Oil Co.					
No. 1 J. R. Dill	5-15N-9E	Attalla	March, 1911	1900	Gas bubbles at 1020 ft.
Harley Development Co.					
No. 1 Flaherty	8-13-3E	Chickasaw	5-12-21	1900	Abandoned
Danner Gas & Oil Trust					
No. 2 Flaherty	20 ft. N. of Harley test	Chickasaw	3-23-22	2340	Cuttings below 1279 ft. from paleozoic beds
W. M. Young et al					
No. 1 Callendar	8½ mi. SW of Port Gibson	Claiborne	1912	1750	Gas at 1450 ft.
Alabama-Mississippi Investment & Development Co.					
No. 1	Near Enterprise	Clarke	1903	1842	Shows at 900 and 1600 ft.
Mississippi Crude Oil Co.					
No. 2	Near Barnett	Clarke	10-23-05	1400	Shows at 908 down to 1220 ft.
B. W. White Co.					
No. 1 White	5-1-3W	Copiah	8-11-21	1836	
No. 2 White	15-1-3W	Copiah	10-15-21	2800	Oil show at 1795 ft.
Marshall Oil & Gas Co.					
No. 1 Didlake	6-2N-1W	Copiah	6-30-22	1725	Oil show in chalk at 898 ft.
Seminary Oil & Gas Co.					
No. 1 Conner	22-7N-15W	Covington	7-9-14	3300	Green clay at total depth
Tatum Lumber Co.					
No. 1 Tatum	Near Sanford	Forrest	6-8-14	4029	No shows
Choctaw Oil & Development Co.					
No. 1 McGehee	2-5N-3E	Franklin	8-15-22	3260	Stopped in cellular limestone
L. B. Mawk Drilling Co.					
No. 1 Borden	19-22-7	Grenada	10-1-23	1900	Last depth reported
Atlas Oil Co.					
No. 1 Garber	18-6-1E	Hinds	3-8-17	3079	Stopped in Selma chalk
Benedum-Trees Oil Co.					
No. 2 Swearingen	14-6N-1E	Hinds	3-31-17	3043	Oil saturated lime at 2640
Raymond, Benninger & Beach					
No. 1 Elton	6-4N-1E	Hinds	6-1-20	1413	Gas in Claiborne at 600, 986 and 1343 ft.
No. 2 Elton	6-4N-1E	Hinds	5-1-21	1745	
City of Edwards					
No. 1	At Edwards	Hinds	(Water well	1183	Drilled by Layne & Bowler
Missouri Parties					
No. 1	7-10-9	Itawamba	1921	396	Show reported at 324 ft.
Bellevue Oil Co.					
No. 1 W. A. Pollock	S. of Pascagoula	Jackson	1-1-13	560	Elevation 10 ft.
Atlas Oil Co.					
No. 1 Woodman	15-6S-7W	Jackson	3-31-17	2762	No Shows
No. 2 Woodman	20-6S-6W	Jackson	7-3-17	2654	Gas show at 1642 ft.
Pascagoula Development Co.					
No. 1 Delamorton	Near Pascagoula	Jackson	5-23-11	3010	150,000 cu. ft. gas and salt water at 2250 ft.
Seacoast Oil Co.,					
No. 1 Hibbler	22-7S-6W	Jackson	Aband. 1921	4000	Gas shows at 1725, 3050 and 3760 ft.
The Georgia Co.					
No. 1 Waterman	4-7S-6W	Jackson	7-1-20	2434	S.W. at 2400 ft.
Jackson County Oil Co.					
No. 2 Waterman	4-7S-6W	Jackson	4-20-21	1387	Aband. in sand
Great American Oil Co.					
No. 1 Marg. Hyslop	Near Kreole	Jackson	Feb. 1923	5120	No log available.
No. 1 E. T. Martin	Near Kreole	Jackson	2-1-22	3300	Lost drill stem.
Jeff Truly et al					
No. 1 Lake Truly	16 mi. W. of Fayette	Jefferson	12-3-15	2575	Drilled on gas escapes in lake
Manhattan-Texas Petroleum Co.					
No. 1 Truly	twp 9N-1W	Jefferson	11-20-20	1100	Abandoned
Oxford Oil Co.					
No. 1 Oxford	5 mi. W. of Oxford	Lafayette	4-19-22	510	Abandoned
Baird-Hughes Drilling Co.					
No. Craig	28-7N-14E	Lauderdale	10-10-20	3000	Oil Show at 2815 ft.
Citizens Oil Trust					
No. 1 Middlebrook	29-7N-15E	Lauderdale	5-9-21	3288	Tuscaloosa Brown sand at total depth
Pioneer Oil & Gas Co.					
No. 1 J. T. Knox	Near Toomsuba	Lauderdale	1914	2850	Abandoned
Anderson Drilling Co.					
No. 1 Hardy	9-17N-17E	Lowndes	March, 1920	766	Tools lost
No. 1 Billups	12-18N-16E	Lowndes	4-30-21	2040	Oil show reported in paleozoic rocks at 2000 ft.
Madison County Oil & Development Co.					
No. 1 Greaves	Intersection of secs 3-4-9-10-8N-1E	Madison	10-10-20	3020	Dry gas show at 1879 ft.
No. 1 Nichols	7-10-4	Madison	9-12-21	2482	Dry sand at total depth
R. B. Laird, Driller					
Amory Water Well	Amory	Monroe	1921	900	Paleozoic sea floor at 400 ft.
Preston Oil & Gas Co.					
No. 1 McLean	15-19N-6E	Montgomery	10-1-20	4260	Salt water at 3503 ft. probably in lower Cretaceous
Panola Oil & Gas Co.					
No. 1 Lamb	35-27-2E	Panola	4-1-22	2230	Junked and aband.
No. 2 Lamb	35-27-2E	Panola	1923	2400	Last report
Gulf Drilling Co.					
No. 1 Cupit	25-2N-7E	Pike	12-13-20	225	Twisted off bit
No. 2 Cupit	20 ft. S. of No.1	Pike	12-28-20	2420	Oil show in base of Jackson at 1580 ft.
Finkbine Lumber Co.					
Two tests	7-3E-3N	Rankin	1925	3500	Shows at 1100, 2000 and 3500 reported.
Charleston Oil & Gas Co. (E. W. Marland Interests)					
No. 1 Newton	36-24N-2E	Tallahatchie	7-27-20	3700	Aband. in Tuscaloosa
Niel Scroggins et al					
No. 1 Bardwell	32-28-3E	Tallahatchie	10-15-23	2600	Gas show in Eutaw at 2600ft
Inka Development Co.					
No. 1 J. C. Jourdan	9-4S-11E	Tishomingo	Aug. 1921	1902	Oil residue in Brown sandy lime from 1787 to total depth
Mississippi Oil & Refining Co.					
No. 1 Southward	18-5-11	Tishomingo	Feb. 1923	1855	Devonian black shale at 735 ft.
Minyard Well Co.					
No. 1 Woodson	36-7-3E	Union	9-25-22	1360	
Mississippi Oil, Gas & Development Co.					
No. 1 Mildred	32-16N-4E	Warren	Aug. 1916	3462	Salt water at 3254 ft., in Selma or Eutaw
No. 2 Mildred	32-16N-4E	Warren	Jan. 1917	2630	Probably in Ripley
Edmonds Oil & Refining Co.					
No. 1 Archer	35-9N-5W	Warren	3-17-21	3684	Hole junked in sandy shale; oil show at 2585 ft.
Alhambra Oil & Gas Co.					
No. 1 Williams	30-14-9W	Washington	5-24-21	2630	Drill stem in hole
No. 2 Williams	20 ft. E. of No.1	Washington		1970	Lost Hole
No. 3 Williams	300 ft. E. of No.1	Washington		3120	Gas show in Eutaw

Look Through the Economist's Eyes

SOME times we can get a clearer picture of a situation by viewing it in terms of the trained economist. He looks at facts and figures impersonally, much as a banker looks at one's balance sheet. Unimportant and confusing detail is brushed aside so that we see the gist of it.

Below is how an economist and active oil man sets up the present refinery stock situation in relation to the market. You, the reader, are aware of what he says already, but you may not have appreciated the force of the economics of it. Study the following terse statement which deals with cold facts only and you will have a little different or a clearer view of the situation.

The author is W. Frederick Suender who for years has been putting in his spare time from running oil sales organizations and refineries in studying the oil industry as an economist and a statistician. He is now general manager of the Carnegie Refining Co., at Carnegie, Pa.

Mr. Suender's comments are contributed as a result of editorials in National Petroleum News pointing out that, when competition is active and supply more than adequate and when one man gets a greater percentage of business than all the others, he leaves his competitors with idle capacity, or equipment or stocks on their hands; that those competitors are not going to sit idly by and let this condition continue or they will go out of business; that they will redouble their efforts not only to get back their share of the business but move the accumulation on their hands; that if they cannot do this by better selling methods they will do it by price cutting; that on their failure to do this they will go out of business.

National Petroleum News has long urged that, while no man should fail to take full advantage of lower costs or better methods or better management to get a longer price and more business, he must at the same time bear in mind there is a limited amount of business and if he takes more of it than naturally falls to his lot then he must be prepared for a fight from his competitors. If he is able to withstand the attack of his competitors and they fail, all right, that is one of the unavoidable outcomes of business and war; but if he cannot maintain his lead at a profit against his competitors, he has simply brought on an unprofitable price situation which will lose both him and his competitors money and in the long run he will be no further ahead by having reached out for this extra volume of business.

Gasoline gallonage is absolutely limited by the number of cars and the use of those cars. No sales effort that the oil industry can profitably put forth will increase the consumption of gasoline a single gallon. All a refiner's or oil marketer's sales effort can do is to get him his share of the business or take some away from his competitors. If the gasoline gallonage in a state increases all told 15 per cent in a year and several marketers go out and get increases of more than 15 per cent they have simply taken that extra business away from competitors. Those competitors will have to fight back or quit business eventually. The usual way to fight back is to cut the price.

Gasoline gallonage can be forecast quite accurately by the rate of automobile registration. Refiners and marketers can easily approximate the probable increase in cars in their district or territories. If the refiners and marketers hold their total output to that probable increase the market will be healthy, *providing* each individual refiner and marketer holds *his individual growth* to that same general percentage of increase. There will be some exceptions to this general rule, due to inaccurate forecasting, unexpected increases in car purchases or car mileage because of better roads or weather, and to some incompetence of some competitors. But in general the rule will hold true.

The oil industry can have a healthy, profitable business, as a whole and as individual units, *if each individual unit will plan its increase in business in direct relation to its expected increase in business and no more,* UNLESS a particular unit has such advantages of location, product or ability that it can undersell all competitors and still make the profit that the individual unit should.

But be absolutely certain you have all these advantages in your favor before you go after more than your share of the business, else you will have an expensive price war on your hands that will only work to reduce or eliminate entirely your profit. You are in business FIRST to make a profit. Growth of your business is secondary. A business that does not make a good profit regularly year in and year out is no business at all.

STUDY Mr. Suender's comments. They will help you plan for next year.—W. C. P. Editor.

Overselling to Competitor's Damage Brings Punishment from His Stocks

By W. Frederick Suender
Carnegie Refining Co., Carnegie, Pa.

WHEN you sell faster than your competitor you are not selling your product, but his.

Unless you expect competitor's product to be dumped in the creek, his excess inventory must eventually be met in the market; tomorrow, next week, or next month.

Your asking price depends upon the quantity in your possession; your obtainable price upon the quantity in possession of your competitor.

If your tactics are such as to pile up competitor's inventory beyond the average of the industry as a whole, each gallon so stored will plague you subsequently.

The higher out of proportion such competitive inventories reach, the greater the burden to the holder, and the greater the incentive for dumping and price cutting.

INVENTORIES

Progress is not measured by comparing a thing with itself, but by comparison with other things having the same incentive!

Is there such a radical difference between a clerk and a salesman? A clerk sells you his service, and as a matter of course delivers that service. A salesman or sales manager sells you his service, (Say the task of selling the output of a refinery) and forever after continues to sell his ability to the boss along with the boss' merchandise to the customer.

He pretends that the thing he was assigned to is a colossal task, whereas it is no more difficult than the clerk's in his particular position. You know as a matter of fact that just as a clerk does his yearly task the output of the United Refineries ARE sold annually. There is no magic about it.

There is this difference, however; the moment the clerk is a backslider you KNOW it, since you employ many clerks and can judge of their comparative merit; while the salesman has an apparent justification for both performance and non-performance.

The sales department, can, however, be compared with (not your own, since you have only one) but the sales departments of all the refineries running crude and selling the same market.

In making a comparison with your selling staff or its executive, a common ground must be found; obviously gallons

will not do since the original still run of no two refineries is equal.

For that purpose I use TIME.

The formula arrived at is not a complicated one.

The total production of all U. S. refineries is published monthly by Bureau of Mines, also the inventories. Using the time factor every refiner's inventory, no matter what his still runs, can be compared with all others.

About the most efficient sales guide ever devised is contained in the statistical reports of the Bureau of Mines.

It is often stated that refiners cannot afford to gamble with their product inventories. I agree to that statement but differ as to what constitutes gambling.

Here in western Pennsylvania we have 50 competing refiners all shooting at the same mark or market.

The sales forces moving the products of these refineries are as keen and alert as found anywhere in the industry.

You can engage without cost the combined intelligence of your 49 competitive sales' forces by study of Bureau of Mines statistics.

The inventories remaining at the end of the month after the sales forces of my 49 competitors have done their stuff during the preceding 30 days, is sufficient guide to my selling, unless I think I'm opposed by an army of morons.

The inventories for these 50 western Pennsylvania refiners stood as of Oct. 1 as follows (100=1 month).

	Per cent
Kerosene	91
Gas Oil	170
Lubs	225
Wax	257

Total Stocks the Yardstick

Any explanation in the event of my inventories not synchronizing with those selling the identical market leaves me cold.

If I have more than 91 per cent of kerosene or less than 257 per cent of wax, the sales department has gambled.

It has in effect wagered that its brand of intelligence is superior to that of its 49 competitors; the odds are 49 to 1 and its a bet invariably lost.

The above is not to be construed as advocating abdication in favor of your competitor, the intent being to use these statistics as an aid, not to hobble us.

If you are selling oysters of supposed equal quality from a booth adjacent to one operated by a competitor, at the same price, and you got all of the business and he none, you will, unless you are a confirmed egotist, eventually open several looking for the probable pearl or RAISE YOUR PRICE!

West Virginia for example produces a crude from which the yield of raw cylinder stock is equal to Warren E color. If the seller of that raw stock sold on the basis of the spot market for that commodity not on the higher price for Warren E, no one would sell any until he was sold out.

Everything else being equal, if your inventory recedes faster than your competitors, you are doing one of two things:

A. Furnishing a product better than standard quality.

B. Selling too low.

You don't want to change A but you can **RAISE YOUR PRICE.**

Your ability to receive a higher price is confirmed by the fact of having been able to dispose of more products than your competitor at the next lower preceding price.

Since the average inventory of the 50 western Pennsylvania refiners is composed of various sizes of inventories (it being the average of all). There will always be some of those composing the average theoretically oversold.

The logical thing for these refiners is to raise their asking price, the reaction to which is

A. They get what they ask for, or,

B. The product moves from competitors supplies, removing distress from the market until all inventories are on an equality basis.

There is nothing herein which can be construed as restraint in trade as prices per se, are not quoted: the entire formula being based upon quantities which govern prices.

In the same manner as duress compels your competitor to resort to dumping, an analogous condition exists in regional competition.

This factor operates at all times on interchangeable products; It does not apply to cylinder stocks made from various kinds of crudes, but applies for example to 124-126 crude scale wax and of course applies to gasoline.

One of the most confusing factors mitigating against a clear picture of conditions as they are, is our mania for dealing in large numbers.

By reducing these numbers to a time factor the problem may be simplified.

Thus to say that

A holds 10,000 gallons of gasoline
B holds 100,000 gallons of gasoline
C holds 200,000 gallons of gasoline

is not sufficient for an adequate survey of conditions, any more than would be citing the assets of a balance sheet without mention of liabilities.

If A is a service station putting out 200 gallons a day, the quantity therefore in his possession amounts to 50 days of supply. If B is a bulk station selling 200,000 gallons monthly his inventory is equal to 15 days of supply.

If C is a refiner manufacturing and selling 1 million gallons per month he has in his possession only one-fifth of a month's supply.

Danger is overcome by fore knowledge of the direction from which it may be expected.

REGIONAL INVENTORIES OF U. S. GASOLINE

Expressed in months of Production
100=1 month

		Stocks Sept. 1	Stocks Oct. 1	Movement from points of origin Sept.
East Coast	1	205	229	76
Appalachian	2	79	75	104
Ind. and Ill.	3	131	123	108
Texas	4	85	89	96
Okla. & Kans.	5	63	58	105
Louis. & Ark.	6	357	364	93
Rocky Mt.	7	251	247	104
California	8	265	264	101
United States		160	161	99

As soon as movement from congested area (even though their inventories are larger than those of the U. S.) move more rapidly than the movement for the whole, danger from that locality is eliminated, since such excess movement acts as a stabilizer or leveler. This applies to No. 7 and 8.

It is not conducive to stability for localities having inventories LARGER than the whole to move LESS than the whole. This applies to No. 1 and 6.

East coast market was not reduced for any such simple reason, as having bought cheap California Gasoline the reduced price was passed on to the consumer.

The obvious reason was, that having bought it east coast could not digest it; it may have disposed of the particular gasoline purchased, but at the sacrifice of withholding its own; as witness their retention of 24 per cent of one month's production (movement 76).

In the case of No. 1 and 8 it is apparent that the burden of duress has been transferred from California to the east coast where it still exists.

It is not conducive to stability for localities having inventories smaller than the whole, moving their products FASTER than the mass; this applies to 2, 3 and 5.

Correct marketing procedures may be observed in Texas No. 4 having an inventory SMALLER than the whole and moving LESS.

There are two methods of procedure having a tendency to stabilize present status.

Nos. 2, 3 and 5 may safely RAISE THEIR ASKING PRICE, with the possibility of selling a little less, or face the possibility of duress price cutting by No. 1 and 6.

It will require only a little coy reluctance on the part of 2, 3 and 5, say to a point where 1 and 6 will move more than the whole to stiffen the entire market.

RIVERHEAD, L. I., N. Y.—Riverside Gas & Oil Co. has increased its gasoline sales from 140,000 gallons last year to 300,000 gallons this year, according to Harry Jennings, a partner in the company.

SULLIVAN, MO.—Shaffer & Williams Oil Co. has installed two 15,000 gallon storage tanks here and will engage in wholesaling gasoline and oil, according to J. T. Williams, manager.

LOGAN, O.—Lanning Motor Co. is installing bulk storage of 100,000 gallons for low-test gasoline, according to R. R. Lanning, manager.

Delaware Jurist Refuses Injunction in Plymouth Oil Co. Suit

WILMINGTON, DEL., Dec. 11

IN A lengthy opinion handed down by Chancellor Wolcott, of Delaware, the application of William Henderson, et al, of Pittsburgh, for temporary order restraining more than a score of defendants from disposing of shares of the Plymouth Oil Co. was denied.

Henderson, a prominent coal operator of Pittsburgh, purchased shares of the Plymouth Oil Co., which is holding company organized by the Benedum-Tress oil interests. It owns control of the Big Lake Oil Co., which has been highly successful in developing the Reagan county, Tex., field. Henderson contended that he bought the stock on the representation that a certain number of shares had been issued, subsequently to find that there were 700,000 more shares than he was aware of. He sought the injunction to keep them from disposing of the 700,000 shares, and in another action in the same court he asks that the stock be cancelled.

In his denial of the application, the Delaware jurist said:

"..... it seems that to permit this result would be for this court to countenance the doing of a very great inequity. As I view this case the promoters, having given full value for their stock, are in as good a position as they would be in if they had given cash in the full amount of the par value of the stock which was received.

Holds Transaction Was Fair

"Under the facts of this case, I have not the slightest hesitancy in finding that the judgment of the directors who valued the property at the figure of $5,250,000 was not only free of actual fraud, but was conspicuously fair. The resolution of valuation was adopted by the board of directors after a very careful and thorough investigation by skilled and competent men extending over a period of several months. They fixed the value upon these leases at from $16,000,000 to $25,000,000.

"Extensive studies of the geological formations in the vicinity were made and the result of those studies was such that men, such as these, whose life work equipped them to appraise with greater intelligence than most men the values of a given field, were convinced that a great discovery had been made. The sequel has justified their judgment. It appears now that the properties owned and acquired by the defendant company are worth in the neighborhood of $40,000,000.

"Certainly no court, on such a statement of facts as disclosed in this case, would compel the promoters to surrender their stock and allow the company to keep the property paid for."

He further said, "that if the true situation was that the so-called promoters had a highly valuable asset honestly believed, and subsequently demonstrated to be capable of yielding great gains, I know of no principle of equity which would require the owners of these assets to allow others to share in equal ratio all of the profits if they were admitted to share any.

More Than Full Value

"Here is a case where the defendant promoters gave more than full value for the stock they received. It is impossible to see how the corporation had suffered any injury. It does not seek a rescision of the sale made by Stearns. It does not ask that the defendants shall turn back the 700,000 shares of stock still held by them and account at par for that which they have sold, tendering back to them the Big Lake stock which they through Stearns transferred to it. Nor do the individual complainants and intervenors desire to surrender their stock in exchange for the money they paid for it.

"The corporation as well as the complaining stockholders wish to keep everything the defendants gave, and take from them everything that they received. If the defendants had given nothing for the stock and had taken it under forbidden circumstances, there would be no inequity in requiring them to hand back what they had taken. But that is not the case. Here what they gave was worth not only as much but more than the par value of what they got. If a man buys a valuable property at a cheap price—let the case be put even stronger—if a man receives a gift of a valuable property, and then turns it over to a corporation for a large sum, but for no more than it is fairly worth, he taking the stock and it is his property in fair exchange, must he forfeit all his interest in it if he fails to disclose to every future stockholder that it cost him nothing? I do not think so. I find no case which holds. In such case, while he has secured a profit, it has not been at the expense of the corporation nor of any of its stockholders. It is at the expense, if anybody, of him who gave it away or sold it for a cheap price.

"In the instant case, as between these parties, the only loss suffered was on the part of the promoters, because whereas they owned a hundred per cent interest in these undervalued assets before they sold them to the corporation, they owned after the sale only a six-sevenths interest. In this way the promoters have proved to be the losers by the transaction and the complainant stockholders gainers. It is quite apparent why the complainants do not ask to have things restored to the status quo ante.

"I do not understand any court ever to have held that in righting a wrong done a corporation as a vendee it would be an instrument of wrong to the vendor.

Value of Assets

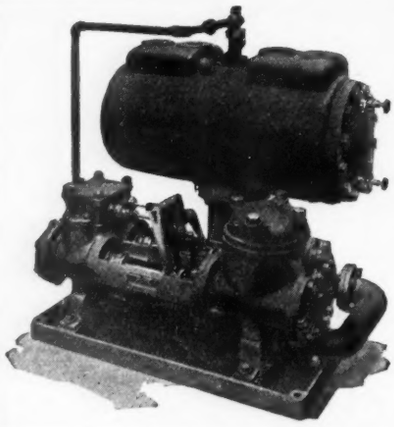
"Here is a case where individuals in the exercise of keen vision and shrewd judgment acquired certain tremendously valuable assets. At that time they were, as hereinbefore observed, under no fiduciary duty to anybody. They turned these assets over to a corporation at much less than they were worth. They admitted others to a share in their good fortune. The corporation has an asset of value now appearing to be worth about forty million dollars as against its capital stock of only five million, two hundred and fifty thousand dollars par value, and the complainants now have shares of stock costing $1.50 a share, which is valued by market transactions as high as $40 a share. The proposition of this bill is that those who have thus benefitted the corporation and all the outside shareholders, shall be told by a court of equity that they must now step aside and relinquish to the exclusive enjoyment of others all the advantages which the transfer of their own property for a fair price has made possible."

On the question as to whether the preferred stock sold was treasury stock or an original issue and sale by the company, the Chancellor held that the plaintiffs purchased treasury stock which had been lawfully issued, not from the corporation as part of its original issue, but from one who could make no complaint against the company, and that the rights of the plaintiff were no greater than those to whom the stock had been originally issued. The Chancellor reviewed quite a number of decisions cited by the plaintiffs as to secret profits and as to whether the stock carried the rights of an original issue and found that they do not support the plaintiff's contention. "I am of the opinion," says the Chancellor, "that if the promoters give full value for the stock they receive they may turn it back to the treasury for the benefit of the corporation and purchasers have no greater or better right than the original promoter to complain."

The Chancellor ordered that the rule would, therefore, be discharged and the restraining order issued vacated. Attorneys for Henderson and his associate complainants appeared before the Chancellor and asked that they be given until December 9 to determine their further course of action. This extension was granted without protest by the attorneys for the company.

LONG ISLAND CITY, N. Y.—David F. Holmes, who owns and operates the Jackson & Webster Filling Station, is selling 700 gallons of gasoline daily and states that his motto is "first class service." Mr. Holmes changes and repairs tubes free of charge for customers only.

Six new pillar lights have just been installed at the station. Texaco products are handled exclusively.



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Census Bureau Plans 1925 Manufacturing Survey

WASHINGTON, Dec.14.—Plans for the biennial census of manufactures to cover 1925, are under way by the Bureau of the Census. Representatives of various manufacturers' associations have been consulted by the bureau in order that information may be secured that will be of value to these representatives, and at the same time furnish a record of the progress of manufactures generally throughout the country.

Blank forms on which the reports should be made will be mailed by the bureau to all manufacturers about Jan. 1, and a report will be required from each manufacturer whose gross products are valued at $5,000 or more during 1925.

The bureau urges manufacturers to fill out these blanks as soon after Jan. 1 as possible, as the tabulation of each industry is not made by the bureau until reports are received from all manufacturers engaged in it.

SAN ANTONIO, TEX.—Kahn Oil Co. of this city has completed one of the most modern and complete drive-in service stations here. On the opening date, the company gave away a bucket of grease to each customer who bought five gallons or more of gasoline. The station was busy from 5 A. M. to midnight, and 4900 gallons of gasoline were sold. A line of cars was in the waiting line all day, reports M. A. Kahn, president.

ROSWELL, N. MEX.—The new service station of H. C. Conley here is doing a good business, handling Sinclair products exclusively, reports O. M. Wallace, agent at Roswell for the Sinclair Refining Co. The station has three drives and is equipped with two 10 gallon visible air operated pumps.

MAYFIELD, KY.—West Kentucky Oil Co. has just completed and opened a $15,000 filling station and car laundry. The company expects to open two additional bulk plants in the near future, which will give a total of five this year, according to O. Griffin, general manager.

HARRISBURG, PA.—Indian Refining Co. has sold its two filling stations here to the Supreme Oil Co. of Reading, Pa., who took charge on Oct. 15, reports J. M. Vance, formerly salesman for the Indian in this territory.

SEYMOUR, IA.—Hart Bros. Oil Co. recently installed two additional storage tanks, with a capacity of 34,120 gallons each, and one tank of 25,600 gallons capacity to its plant here. This gives the company a total storage capacity of 199,180 gallons.

Bureau Analyzes Typical Crude Oils of Canada and South America

THE Bureau of Mines undertook a study of foreign crude oils for two reasons: First, foreign fields are potential sources of supply for the United States; in fact, considerable quantities of some foreign crudes have already been imported. Second, these oils are very similar in physical and chemical properties to oils found in the United States and a study of these resemblances has scientific value.

Acknowledgements

Most of the samples of crude oil mentioned in this paper were collected through the courtesy of officials of oil companies operating in the foreign fields. The Canadian and Peruvian samples were furnished by G. H. Smith of the Imperial Oil Co., Toronto, Canada; the Mexican crudes, by William Green, vice president and general superintendent, Hausteca Petroleum Co., Tampico, Mexico; the samples from the fields of Trinidad were obtained through the courtesy of Arthur W. Sewall, president, General Asphalt Co., Philadelphia, Pa.; Venezuela samples were supplied by Mr. Sewall and C. N. Forrest, manager, technical department, Barber Asphalt Co. E. L. Wynne, 23 Beaver Street, New York City, and E. G. Fleiss, of the Argentine Government Oilfields, supplied Argentina samples. The Colombian samples were obtained through the cooperation of Walter Teagle, president, Standard Oil Co. of New Jersey. The authors gratefully acknowledge the aid rendered by C. E. Beecher, of the Empire Gas and Fuel Co., Bartlesville, Co. of California, Los Angeles, Calif., Okla., and T. E. Swigart, of the Shell Co., E. L. Wynne, 23 Beaver Street, who read the manuscript and made helpful suggestions.

Methods of Sampling and Analysis

Most of the samples were collected during the summer of 1922, although some samples date back to 1919 and 1920. The samples were placed in cans that were tightly soldered at once and there is no evidence that the oils had weathered before they were analyzed. All the samples are thought to be fairly representative of the districts under consideration.

The details of the methods used in this survey in collecting samples, making laboratory tests, and interpreting results have been discussed in the reports on domestic crudes, especially in Serials 2202 and 2416.

Discussion of Results

The properties of a group of crude oils can be adequately discussed only by considering a great number of details, for no two crudes are exactly alike. However, a method of interpretation, along the lines indicated in former reports, and a grouping of the crude oils of similar nature in each country, have been undertaken. Also, wherever analogies appear which indicate similarity to a typical crude oil of the United States, this similarity is pointed out.

Table 1 summarizes the results of the present survey by presenting some of the figures indicating the physical and chemical properties of the crudes. Table 2 presents figures for the gravities of the fractions distilling at atmospheric pressure between 250° and 275° C. and also for the gravities of the fractions distilling between 275° and 300° C. at 40 mm. absolute pressure. The difference between these figures indicates in a general way the "base" of a crude oil.

Gravities are reported in A. P. I. degrees. This is the scale formerly known in the American petroleum industry as "Baumé," based on the modulus 141.5 as distinguished from the true Baumé scale based on the modulus 140.0.

Canada

In spite of the wide geographical distribution of the producing fields of Canada the crude oils are remarkably alike. The producing districts represented here by analyses are (1) the Calgary field of the Province of Alberta, (2) the fields of the Province of Ontario, (3) the Stony Creek field of the Province of New Brunswick, and (4) the MacKenzie district of the Northwest Territories by one sample from the Fort Norman well.

Calgary Field

Seven samples from the Calgary field are included. These crudes are characterized by a light gravity and an unusually large content of "gasoline and naphtha." The lightest gravity is 54.2° for sample No. 922 from the Royalite No. 1 well, and the heaviest is 37.0° for sample No. 926 from Sheep River. The arithmetical mean of the gravities of the seven samples from Calgary is 48.1°, and five (71 per cent) have gravities between 53.2° and 43.0°.

The largest content of "gasoline and naphtha" is 90.1 per cent of 56.2° gravity, for sample No. 922, and the lowest is 30.9 per cent of 61.0° gravity, for sample No. 926. The arithmetical mean of the "gasoline and naphtha" content of the seven samples is 64.2 per cent, and five (71 per cent) have between 53.1 and 71.6 per cent. The gravity of the "gasoline and naphtha" fractions ranges from 61.0° for sample No. 926, Sheep River crude, to 55.9° for sample No. 921, from the Southern Alberta No. 1 well. The arithmetical mean of the gravities is 58.0°.

The sulphur content of the seven samples is rather low. The highest is 0.17 per cent, in samples No. 925 and No. 926, and the lowest is 0.10 per cent in sample No. 923. The arithmetical mean of the sulphur content of the seven samples is 0.13 per cent.

Only four of the seven samples show an appreciable content of lubricating constituents, and two of these, No. 925 and No. 926, contain a comparatively small proportion of nonviscous and medium distillates and no viscous distillate. Sample No. 923 has small proportions of nonviscous, medium, and viscous distillates; sample No. 924 has 1.6 percent of nonviscous lubricating distillate, and no heavier distillates.

The crude oils of Calgary are in many ways similar to those of the Rocky Mountain fields in the United States, especially those of the Cat Creek field of Montana, and the Osage field of Wyoming. Samples Nos. 920, 921, 922, and 924 from Calgary compare with sample No. 559, from the Cat Creek field, Montana, and sample No. 926 compares with sample No. 575 from the Osage field, Wyoming. Sample No. 923 and sample No. 925 are similar to such light Mid-Continent crudes as those from the Garber (No. 768) and Cushing (No. 619) fields of Oklahoma. The lighter Calgary crudes contain a "gasoline and naphtha" fraction of slightly heavier gravity than the Cat Creek crude and have a larger proportion of this cut. The kerosene content of the Cat Creek sample is larger than that of the Calgary crude.

The sulphur content of the Calgary crudes is considerably less than that of either the Cat Creek or the Osage crudes. The Calgary samples average 0.13 per cent sulphur; the Cat Creek has 0.36 per cent, and the Osage crude has 0.29 per cent.

Ontario

There are four samples from Ontario. These oils are considerably heavier than those from Alberta and contain smaller proportions of "gasoline and naphtha." The gravity ranges from 36.2°, for sample No. 928 from the Oil Springs field to 33.2° for sample No. 927 from the Petrolia field; the arithmetical mean of the gravities is 34.8°.

The sulphur content of these samples is rather high. The largest content is 1.05 per cent in sample No. 929, from the Bothwell field, and the smallest is 0.75 per cent for sample No. 928, from the Oil Springs field. The arithmetical mean of the sulphur contents is 0.89 per cent.

The proportion of "gasoline and naphtha" ranges from 28.8 per cent with a gravity of 58.4° for sample No. 928, from the Oil Springs field, to 19.4 per

cent with a gravity of 57.2° for samples No. 930 from the Mosa field. The arithmetical mean of the "gasoline and naphtha" content is 23.6 per cent and that of the gravity is 57.4°.

These crudes have normal proportions of nonviscous and medium lubricating distillates, and no viscous distillate. The viscosities of the corresponding vacuum fractions are similar for all of the samples.

The Ontario crudes are quite similar to the Lima, Ohio, crudes. For comparison, see samples Nos. 927 to 930. and samples Nos. 390 and 391 from the Lima district. The Ontario crudes have a higher sulphur content than the Lima crudes; the average sulphur content of the Ontario samples is 0.89 per cent, whereas that of the Lima samples is 0.55 per cent. The average "gasoline and naphtha" content of the Ontario crude is 23.6 per cent of an average gravity of 57.4°. The Lima crude averages 29.0 per cent of "gasoline and naphtha" with a gravity of 55.8°. The Ontario crudes have a higher kerosene content than the Lima oil, as their average kerosene content is 17.3 per cent, with an average gravity of 42.9°; whereas the Lima samples have an average of 15.8 per cent, with a gravity of 42.3°. The corresponding vacuum fractions are much alike. Neither the Ontario crudes nor the Lima crudes contain viscous lubricating distillates. The content of medium lubricating distillate is approximately equal for all of them, although the Canadian samples contain somewhat larger proportions of nonviscous distillate, and the gravities and cloud tests for the corresponding vacuum fractions are nearly alike. The carbon residue of residuum is about 5 per cent for the Ontario samples and about 6 per cent for the Lima samples.

New Brunswick

Two samples, No. 23049 and No. 23050, from New Brunswick are included. They are from the Stony Creek field of Albert County and are typical paraffin-base crudes. They compare with several typical paraffin-base crudes described in Serial 2202 (especially sample No. 424) from Tyler, Doddridge, and Wetzel Counties, West Virginia. The average "gasoline and naphtha" content of the West Virginia crude is about 37 per cent, although it ranges from 30 per cent to 46 per cent; the Stony Creek crudes have about 19 per cent of "gasoline and naphtha" with an average gravity of 62.0°. The West Virginia crude contains somewhat more kerosene than does the Stony Creek oil. The average content of nonviscous lubricating distillate is about 10 per cent for the West Virginia oil and about 13 per cent for the Stony Creek crude. West Virginia crude has about 5 per cent of medium lubricating distillate and the New Brunswick crudes have about 1.5 per cent. The gravities of corresponding fractions of the two crudes are approximately equal throughout the distillation range, and the viscosities and cloud tests are alike for corresponding fractions in the vacuum distillation. The carbon residue of the residuum of

Sample No.	Country, district, or province	Field	Properties of Crude: Gravity, °A.P.I.	Properties of Crude: Sulphur, per cent	Properties of Crude: Viscosity at 100° F.	Properties of Crude: Pour test, ° F.	Gasoline fraction: Per cent	Gasoline fraction: °A.P.I.	Viscosity at 100° F. of vacuum fractions: 225–250 ° C.	Viscosity at 100° F. of vacuum fractions: 250–275 ° C.	Viscosity at 100° F. of vacuum fractions: 275–300 ° C.	Carbon residue of residuum, per cent
	CANADA											
920	Alberta	Calgary	50.1	0.11	31	(a)	70.5	56.2	....	....	....	....
921	do	do	49.5	.13	31	(a)	70.5	55.9	....	....	....	....
922	do	do	54.2	.13	29	(a)	90.1	56.2	....	....	....	....
923	do	do	49.5	.10	31	(a)	62.9	60.2	70	87	184	7.1
924	do	do	53.2	.11	30	(a)	71.6	60.5	54	....	....	3.2
925	do	do	43.0	.17	32	(a)	53.1	56.2	61	87	166	6.2
926	do	do	37.0	.17	44	40	30.9	61.0	61	90	166	4.5
927	Ontario	Petrolia	33.2	.92	68	(a)	22.2	56.9	57	76	116	6.4
928	do	Oil Springs	36.2	.75	51	(a)	28.8	58.4	54	74	114	5.2
929	do	Bothwell	35.6	1.05	52	(a)	24.1	57.2	55	76	120	4.4
930	do	Mosa	34.0	.85	62	(a)	19.4	57.2	57	80	125	4.9
931	MacKenzie	Fort Norman	35.8	.33	41	(a)	33.4	57.9	67	109	230	2.8
23,049	New Brunswick	Stony Creek	37.8	.08	90	20	19.3	62.3	52	67	92	3.2
23,050	do	do	37.2	.10	90	20	18.8	61.3	50	64	92	3.2
	MEXICO											
990	Southern light oil	Alamo	23.3	2.95	368	20	17.5	59.2	59	89	152	20.9
1,022	do	Cerro Azul	20.8	3.61	634	30	15.0	59.2	57	81	135	21.9
1,023	do	do	21.0	3.75	634	30	16.5	58.7	61	89	154	22.8
1,021	do	Chapopote-Nunez	24.0	3.20	402	50	15.9	59.5	61	90	154	20.4
1,024	do	Potrero del Llano	21.3	3.61	474	30	16.6	60.0	59	84	163	21.4
1,025	do	do	24.7	3.53	486	30	15.9	59.5	62	85	157	21.6
1,020	do	Tierra Blanca	24.0	3.08	344	25	17.4	59.7	62	100	154	20.4
1,026	do	Toteco	21.6	3.79	696	30	15.9	59.5	60	85	140	22.4
1,027	do	do	22.5	3.72	646	30	16.7	58.7	57	90	150	22.8
811	do	do	20.8	3.77	643	10	16.4	59.5	62	98	....	22.4
993	Northern heavy oil	Gonzalo	11.6	5.29	(b)	40	7.6	52.0	71	143	193	24.1
991	do	Topila	17.1	4.55	2,140	40	8.3	54.2	64	118	186	21.4
992	do	Zurita	12.3	5.09	(b)	40	6.8	53.0	62	108	198	22.1
	TRINIDAD											
948	....	Tabaquite	41.1	.35	34	(a)	50.7	56.9	74	120	260	4.9
949	....	do	45.2	.30	33	(a)	48.0	59.5	58	79	125	2.4
955	....	do	46.0	.30	33	(a)	48.7	57.9	58	78	134	2.6
956	....	do	41.7	.39	33	(a)	52.6	55.4	73	140	290	3.2
946	Morne L'Enfer	Lot 1	16.5	1.81	980	(a)	10.5	48.1	88	188	(c)	16.9
953	do	Parry Lands	21.6	1.47	178	(a)	21.3	51.6	88	188	(c)	12.1
947	do	Lot 4	16.2	1.97	1,220	10	12.1	47.4	99	257	d58	16.0
954	....	Brighton	24.0	2.63	200	(a)	21.6	55.4	71	106	268	13.6
950	....	Barrackpore	24.3	.54	51	(a)	18.1	50.6	104	246	(c)	9.2
951	....	Fyzabad	20.5	.95	144	(a)	11.6	50.6	99	219	(c)	10.2
952	....	Point Fortin	19.7	1.36	313	(a)	14.8	49.5	97	224	(c)	12.8
	ARGENTINA											
1,037	Chubut	Comodoro Rivadavia	21.3	.24	2,000	25	6.2	53.0	88	161	301	9.9
915	do	do	20.8	.17	2,490	15	4.9	55.7	91	177	368	10.5
1,038	Neuquen	Plaza Huincul	33.8	.29	55	(a)	25.1	56.7	65	95	153	9.9
916	....	Mendoza-Neuquen	30.8	.19	71	55	17.5	53.2	64	106	214	8.6
	VENEZUELA											
23,539	....	Mene Grande	16.0	2.65	1,370	(a)	9.2	48.3	79	165	379	19.1
998	....	Maracaibo	17.9	2.51	790	(a)	14.6	53.2	100	224	(c)	22.4
	COLOMBIA											
1,039	Santander	Infantas	28.8	.70	89	(a)	25.7	55.4	89	170	(c)	12.9
1,040	do	do	30.4	.69	68	(a)	23.9	56.4	69	112	223	9.4
	PERU											
932	....	Lobitos	36.8	.12	38	(a)	42.3	56.7	83	168	(c)	7.2
933	....	....	39.4	.02	36	(a)	43.6	56.2	68	122	230	6.3
	UNITED STATES											
559	Montana	Cat Creek	49.7	.36	28	(a)	63.2	48.1	....	....	....	....
24,152	do	Kevin-Sunburst	34.0	.96	43	(a)	25.0	57.2	60	90	159	6.4
967	do	do	35.6	1.04	40	(a)	30.9	60.2	66	114	232	10.5
575	Wyoming	Osage	37.6	.29	62	(a)	34.8	58.2	57	79	132	5.2
768	Oklahoma	Garber	45.6	.14	34	(a)	52.4	60.5	66	99	149	5.7
619	do	Cushing	39.4	.28	37	(a)	37.5	58.9	59	89	161	6.8
390	Ohio	South Lima	36.6	.55	46	(a)	27.0	55.2	52	87	147	6.3
391	do	North Lima	38.0	.55	42	(a)	31.0	57.4	52	83	140	6.2
424	West Virginia	....	44.7	.09	38	(a)	37.1	60.5	55	75	102	1.3
1,162	California	Cat Canyon	15.9	4.13	3,800	30	9.8	49.7	83	132	338	15.6

(a) Below 5° F. (b) More than 6,000 seconds Saybolt Universal. (c) More than 400 seconds Saybolt Universal. (d) 212° F.

the West Virginia crude averages about 2 per cent and that of the Stony Creek crude is 3.2 per cent.

Sample No. 931 is from the Fort Norman well of northern Canada. This well, situated on the right bank of the MacKenzie River, about 45 miles north of Fort Norman, at latitude 63° 30′, longtitude 136°, is said to be the most northern oil well in the world; its capacity is given as about 100 barrels a day, but it is not now producing. The Bureau of Mines analysis shows that the oil is very similar to that from the Sunburst sand of the Kevin-Sunburst field of Montana (samples No. 24152 and No. 967).

Sample No. 926 from Calgary has a pour test of 40° F., and is the only sample of Canadian crude with a pour test above 5° F.

The Conradson carbon residue of residuum of Canadian crudes is fairly low. It was not determined for three samples from Calgary, because these crudes did not have enough high-boiling constituents for a vacuum distillation. For those crudes for which a determination was made, the lowest carbon residue of residuum is 2.8 per cent and the highest is 7.1 per cent. The arithmetical mean of all determinations is 4.6 per cent.

Mexico

The samples of Mexican crudes are divided into two groups based on the geographic position of the fields and the relative gravity of the oils. These groups are designated as (1) the Northern heavy-oil district, or Panuco district, which lies about 50 miles west of Tampico and includes Ebano. Panuco, Cacalilao, and Topila, and (2) the Southern light-oil district, also known as the Tuxpan or Tepetate district, which extends from Dos Bocas (50 miles from Tampico) 45 miles southward to the Tuxpan River. Although the Topila field is geographically in the Northern heavy-oil district, the oil seems to be a hybrid, intermediate in characteristics between the heavy, low cold-test oils of the northern district and the lighter wax-containing oils of the Southern district.

The samples from the northern heavy-oil district are characterized by heavy gravity (average 13.7°) high sulphur content (5.0 per cent), high viscosity, high pour test (40° F.), low gasoline content (7.6 per cent of "gasoline and naphtha"), and low content of lubricating distillates.

The samples from the Southern light-oil district contain considerably more of the lighter distillates. Their gravity ranges from 24.7° for sample No. 1025 from the Potrero del Llano field, to 20.8° for sample No. 1022 from the Cerro Azul field and No. 811 from the Toteco field. The arithmetical mean of all gravities is 22.4°. The sulphur content of these samples is also relatively high, although considerably less than that of samples from the Northern district. The smallest content of sulphur is 2.95 per cent for sample No. 990 from the Alamo field, and the largest is 3.79 per cent for sample No. 1026 from the Toteco field. The arthmetical mean of the sulphur contents of all the Southern crudes is 3.50 per cent. The viscosity of these samples is much lower than that of the Northern samples. The pour point is slightly lower, the average being about 30° F.

The percentage of "gasoline and naphtha" is fairly uniform, ranging from 17.5 per cent for sample No. 990 from the Alamo field, to 15.0 per cent for sample No. 1022 from the Cerro Azul field. The gravity of the "gasoline and naphtha" fractions also is fairly uniform and is rather high, ranging from 60.0° for sample No. 1024 from the Potrero lel Llano field to 58.7° for No. 1023 from the Cerro Azul field, and No. 811 from the Toteco field. The mean of the gravities of the 10 samples from the Southern district is 59.3°. The Southern oils show a higher content of nonviscous and medium lubricating distillates than the Northern oils, but they show no viscous distillate by the Bureau of Mines method of interpretation.

Judged by the cloud point the vacuum distillates of all the samples from the Southern light-oil district have a considerable content of paraffin. Of the three samples from the Northern heavy-oil district sample No. 991, from Topila, shows cloud tests in the four heaviest vacuum distillates, but the samples from the Zurita and Gonzalo fields do not have cloud tests above 5° F.

The samples from the Northern heavy-oil district of Mexico resemble in many ways the Cat Canyon crude of California; the gravity, sulphur content, viscosity, and pour point of the crudes are nearly alike, and the yield of products shown by the approximate summary is nearly equal, except that the Cat Canyon crude has a somewhat more viscous range of vacuum fractions. The gravities of corresponding cuts in

Sample No.	Country, district, or province	Field	Fraction distilling at atmospheric pressure between 250° and 275° C. (482° to 527° F.)		Fraction distilling at 40 mm. vacuum between 275° and 300° C. (527° to 572° F.)		Difference between gravities of the two sets of distillates	
			Specific gravity	°A.P.I.	Specific gravity	°A.P.I.	Specific gravity	°A.P.I.
920	Alberta	Calgary	0.831	38.8	....	....	....	....
921	do	do	.829	39.2	....	....	....	....
922	do	do	....	....	....	....	....	....
923	do	do	.830	39.0	0.896	26.4	0.066	12.6
924	do	do	.823	40.4	....	....	....	....
925	do	do	.833	38.4	.894	26.8	.061	11.6
926	do	do	.837	37.6	.890	27.5	.053	10.1
927	Ontario	Petrolia	.824	40.2	.885	28.4	.061	11.8
928	do	Oil Springs	.825	40.0	.882	28.9	.057	11.1
929	do	Bothwell	.819	41.3	.879	29.5	.060	11.8
930	do	Mosa	.825	40.0	.881	29.1	.056	10.9
931	MacKenzie River	Fort Norman	.838	37.4	.907	24.5	.069	12.9
23,049	New Brunswick	Stony Creek	.808	43.6	.857	33.6	.049	10.0
23,050	do	do	.812	42.8	.853	34.4	.041	8.4
	MEXICO							
990	Southern light oil	Alamo	.831	38.8	.916	23.0	.085	15.8
1022	do	Cerro Azul	.832	38.6	.912	23.7	.080	14.9
1023	do	do	.832	38.6	.916	23.0	.084	15.6
1021	do	Chapopote-Nunez	.831	38.8	.913	23.5	.082	15.3
1024	do	Potrero del Llano	.828	39.4	.913	23.5	.085	15.9
1025	do	do	.832	38.6	.914	23.3	.082	15.3
1020	do	Tierra Blanca	.831	38.8	.918	22.6	.087	16.2
1026	do	Toteco	.831	38.8	.917	22.8	.086	16.0
1027	do	do	.833	38.4	.917	22.8	.084	15.6
811	do	do	.840	37.0	....	....	....	....
993	Northern heavy oil	Gonzalo	.869	31.3	.949	17.6	.080	13.7
991	do	Topila	.847	35.6	.927	21.1	.080	14.5
992	do	Zurita	.875	30.2	.944	18.4	.069	11.8
	TRINIDAD							
948	....	Tabaquite	.859	33.2	.922	22.0	.063	11.2
949	....	do	.829	39.2	.880	29.3	.051	9.9
955	....	do	.832	38.6	.883	28.8	.051	9.8
956	....	do	.867	31.7	.929	20.8	.062	10.9
946	Morne L'Enfer	Lot 1	.892	27.1	.961	15.7	.069	11.4
953	do	Parry Lands	.885	28.4	.953	17.0	.068	11.4
947	do	Lot 4	.888	27.9	.965	15.1	.077	12.8
954	....	Brighton	.854	34.2	.929	20.8	.075	13.4
950	....	Barrackpore	.900	25.7	.967	14.8	.067	10.9
951	....	Fyzabad	.896	26.4	.967	14.8	.071	11.6
952	....	Point Fortin	.882	28.9	.954	16.8	.072	12.1
	ARGENTINA							
1037	Chubut	Comodoro Rivadavia	.855	34.0	.919	22.5	.064	11.5
915	do	do	.851	34.8	.920	22.3	.069	12.5
1038	Neuquen	Plaza Huincul	.827	39.6	.896	26.4	.069	13.2
916	....	Mendoza-Neuquen	.829	39.2	.897	26.3	.068	12.9
	VENEZUELA							
23,539	....	Mene Grande	.879	29.5	.959	16.0	.080	13.5
998	....	Maracaibo	.880	29.3	.954	16.8	.074	12.5
	COLOMBIA							
1039	Santander	Infantas	.868	31.5	.931	20.5	.063	11.0
1040	do	do	.841	36.8	.911	23.8	.070	13.0
	PERU							
932	....	Lobitos	.849	35.2	.920	22.3	.071	12.9
933	....	....	.834	38.2	.901	25.6	.067	12.6
	UNITED STATES							
559	Montana	Cat Creek	.827	39.6	....	....	....	....
24,152	do	Kevin-Sunburst	.838	37.4	.907	24.5	.069	12.9
967	do	do	.847	35.6	.908	24.3	.061	11.3
575	Wyoming	Osage	.838	37.4	.893	27.0	.055	10.4
768	Oklahoma	Garber	.831	38.8	.891	27.3	.060	11.5
619	do	Cushing	.831	38.8	.896	26.4	.065	12.4
390	Ohio	South Lima	.827	39.6	.889	27.7	.062	11.9
391	do	North Lima	.825	40.0	.890	27.5	.065	12.5
424	West Virginia	....	.810	43.2	.852	34.6	.042	8.6
1162	California	Cat Canyon	.857	33.6	.943	18.6	.086	15.0

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the air fractions and the vacuum fractions are closely similar. Sample No. 991, from the Topila field is the only one to how a cloud test in the vacuum fractions.

The samples of crude from the Southern light-oil district are characterized by remarkable uniformity, as indicated by the analyses, and are peculiarly constituted. They do not closely resemble any important crude oil of the United States, although a resemblance to the production of the Mid-Continent fields can be detected. The differences between the Mexican light oil and the Mid-Continent oils that most nearly resemble it may be associated with the much higher sulphur content of the Mexican crudes. The vacuum fractions of Mexican crude are heavier than the corresponding cuts of typical Mid-Continent oils, but not as heavy as the corresponding cuts of southern California crudes.

Trinidad

The petroleum production of Trinidad centers about the famous Pitch Lake. According to Macready approximately 90 per cent of the total production of Trinidad has been yielded by fields within 7 miles of this lake, and by wells on the southwest peninsula.

Except the samples from the Tabaquite field, the samples of Trinidad crude described here have a low gasoline content. The Tabaquite field is represented by two samples classed as "waxy crudes," and two classed as "nonwaxy" crudes. The waxy crude is quite similar to the lighter Oklahoma crudes such as those from the Newkirk and Ponca fields of Kay County. These waxy crudes are characterized by a gravity of about 45.5°, 0.3 per cent sulphur, low viscosity, low pour test, and an average of 48.3 per cent of 58.7° "gasoline and naphtha." They seem to be high-class refining crudes, containing a considerable proportion of paraffin and having a low Conradson carbon residue of residuum. They contain small proportions of nonviscous and medium lubricating distillates, but no viscous distillates.

The two samples of nonwaxy crude from Tabaquite also are characterized by a high "gasoline and naphtha" content, 0.37 per cent sulphur, low viscosity and low pour test. They differ from the waxy crudes mainly in having no cloud test in the vacuum fractions, and in the corresponding cuts in the distillation, both "air" and "vacuum," being of heavier gravity. These crudes seem to resemble the production of the lower zone of the Lost Hills field of California. The geological structures of Trinidad are of the same age as those of the California fields.

The seven crudes from the other fields of Trindad are considerably heavier than those from Tabaquite. The gravity ranges from 24.3° for sample No. 950 from the Barrackpore field to 16.2° for sample No. 947, from Lot Four of the Morne L'Enfer Reserve.. The mean

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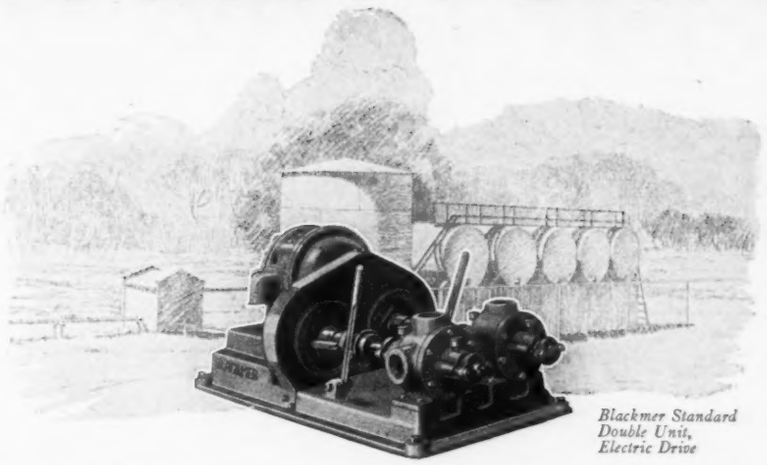

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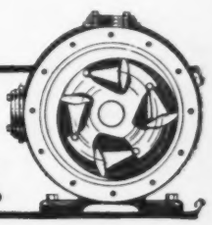

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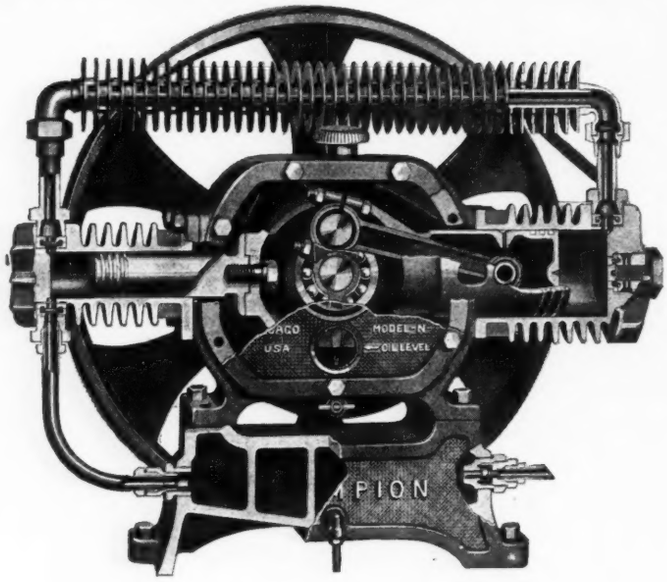

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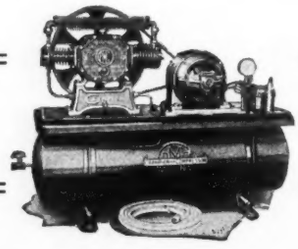

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gravity is 20.3°. The sulphur content ranges from 0.54 per cent for sample No. 950 (which also has the lightest gravity), to 2.63 per cent for sample No. 954 from the Brighton field. The arithmetical mean of the sulphur content is 1.50 per cent. The "gasoline and naphtha" content ranges from 21.6 per cent of 55.4° for sample No. 954 from Brighton, to 10.5 per cent of 48.1° gravity for sample No. 946 from Lot One of the Morne L'Enfer Reserve.

The gravity of individual cuts of these crudes is fairly heavy and, except sample No. 954, which has cuts of considerably lighter gravity than the rest, none of these crudes has cloud tests for the vacuum fractions. The vacuum fractions of sample No. 954 show fairly high cloud tests, and that oil is on the whole similar to crude from the Long Beach field, California. The other Trinidad samples, which have no cloud test in the vacuum fractions, also have unusually heavy gravities of individual cuts, and resemble the Maricopa Flat crude of California.

Argentina

The Argentina fields are represented by four samples: Two from the Comodoro Rivadavia field, which is almost entirely exploited by the Argentine Government, one sample representing Government production in the Plaza Huincul field and one representing oil produced by Petroleo de Challaco, Ltda., in the Mendoza-Neuquen field.

The Comodoro Rivadavia crude is a heavy, black oil of about 20° gravity; it contains practically no commercial gasoline, as it shows only about 5 per cent of "gasoline and naphtha" by the Bureau of Mines analysis and interpretation. The sulphur content is remarkably low, 0.17 per cent for one sample and 0.24 per cent for the other. The gravities of corresponding cuts of the two samples are in general similar, although No. 1037 shows a considerable content of wax, and No. 915 shows no cloud test of vacuum fractions. The content of products, as shown by the approximate summary, is about the same for both samples. This crude is on the whole similar to the production of southern California, except that the California crudes contain more gasoline and naphtha and considerably more sulphur. The content of viscous distillates is similar, and the gravities of corresponding cuts, in both the "air" and "vacuum" distillation, are closely alike.

The samples from the Plaza Huincul and Mendoza-Neuquen fields have a lighter gravity and higher "gasoline and naphtha" content than those from Comodoro Rivadavia. They are in many ways similar to the crude oils of northern Texas.

North Texas crudes have a slightly higher gravity and contain more gasoline than these Argentine crudes, but are much similar in other respects. The gravities of corresponding cuts are closely similar, and the viscosities of the corresponding vacuum cuts are approxi-

mately equal. Both the northern Texas crudes and the Plaza Huincul and Mendoza-Neuquen samples have a sulphur content of about 0.3 per cent. The carbon residue of residuum is slightly higher for the Argentine than for the northern Texas crudes.

Venezuela

Two samples from the Lake Maracaibo basin are included in this paper. They are much alike, being fairly heavy, black oils, rather high in sulphur (average 2.58 per cent), rather low in "gasoline and naphtha" (average 11.9 per cent), and containing considerable proportions of vacuum distillates which do not show wax content. They show no kerosene distillate by the Bureau of Mines analysis and interpretation. The carbon residue of residuum is high, as might be expected from the large content of sulphur. The samples are similar to many of the crudes especially the heavier high-sulphur oils, of Kern County, California. These Kern County crudes do not contain as much sulphur as the Venezuela samples and the carbon residue of residuum is correspondingly less. In other respects the Kern County and the Venezuela crudes are much alike.

Colombia

Two samples from the Infantas field of Colombia are represented here. This field, in the Department of Santander, is about 18 miles east of the village of Barranca Bermeja on the Magdalena River, some 400 miles from Cartagena. The two crudes, which are black, have a sulphur content of 0.70 per cent, low pour point, low viscosity, fairly high content of "gasoline and naphtha" (average 24.7 per cent), and considerable proportions of lubricating distillates. The carbon residue of residuum is fairly high (average 11.2 per cent). The wax content is inconsiderable, none of the vacuum fractions showing cloud tests. The two samples are much alike, although a difference in constitution can be distinguished. One sample (No. 1039) seems much like the lighter crudes of the San Joaquin Valley of California; the individual fractions, in both the "air" and "vacuum" distillations are fairly heavy, and the vacuum fractions have no cloud test. This oil seems to be a typical "naphthenic" crude. In the other sample (No. 1040) the gravity of individual fractions is noticeably lighter, both "air" and "vacuum." Sample No. 1040 contains a considerable kerosene distillate fraction, whereas the corresponding fractions in sample No. 1039 are in the gas-oil class according to the Bureau of Mines method of interpretation. For these reasons and in spite of the fact that the vacuum fractions do not show cloud tests, this crude is considered to be a hybrid between typical "intermediate" and "naphthenic" crudes.

Peru

The production of Peru is represented by two samples; one a "waxy" crude, called "high cold-test crude," and the other a "non-waxy" crude from the

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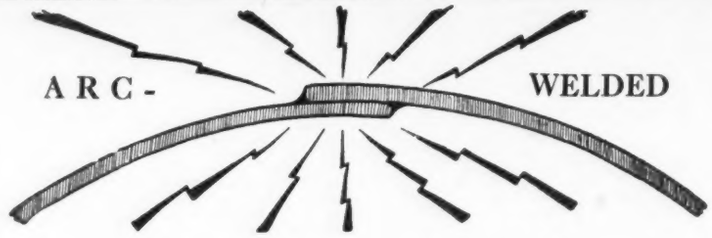

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Lobitos field. These crudes are characterized by a fairly light gravity, a high "gasoline and naphtha" content (average 43 per cent), unusually small proportion of sulphur (average 0.07 per cent), low viscosity, and considerable proportions of commercial fractions as shown by the Bureau of Mines analysis and interpretation. The carbon residue of residuum (average 6.7 per cent) is low in view of the large proportion of total distillate (average 84.7 per cent).

Although the two Peruvian samples have many characteristics in common there is a distinct difference between them. Sample No. 932 seems to lie between typical "intermediate" and "naphthenic" crudes. This classification is made on the basis of the comparatively heavy gravity of the various fractions which, however, are not as heavy as the corresponding fractions of typical "naphthenic" crudes. The vacuum fractions of this sample do not show cloud tests. Sample No. 933 is a typical "intermediate" crude. Its sulphur content is remarkably low, and is comparable to that of crudes from the Eastern fields of the United States. The gravity of the cuts in the "air" distillation is heavier than for cuts of the same distillation range in Eastern crudes, and lighter than for typical naphthenic oils, such as the Gulf Coast crudes and those of the San Joaquin Valley of California. The vacuum fractions have a lighter gravity and greater viscosity than those of Eastern oils, and less than those of the "naphthenic" oils. This sample shows cloud tests in the vacuum fractions and these fractions have considerably lower viscosities than the corresponding fractions of sample No. 932. Sample No. 933 is in many ways similar to typical Mid-Continent crudes, such as the Garber (No. 768) and the Cushing (No. 619) Oklahoma crudes.

HARTFORD, CONN.—The Oil Appliance Co., Inc., has just been formed for the purpose of selling lubricating oils at retail as well as Oil-O-Matic burners, according to Robert F. Pearson, of the Cities Service Refining Co. here.

EDISON, NEB.—O. R. Zike, formerly superintendent of agents at the Hastings division, Neb., for the Standard Oil Co. of Nebraska, has entered the oil business for himself. Mr. Zike just recently completed a bulk station at Edison.

BEAUMONT, TEX.—KFDM radio station of the Magnolia Petroleum Co., Dallas, Tex., is reported to have been heard in New Zealand, according to a letter received from there, reports E. B. Townsend, with the company at Beaumont.

PITTSBURGH—Oil Well Supply Co. declared a dividend of 50 cents on the common, payable January 2 to stock of record December 15. This is the initial dividend on this stock since reclassification.

HERE & THERE

National Petroleum News

A. E. Erickson, district foreman at Muskogee, Okla. for the Oklahoma Pipe Line Co., is clearing a site for a new electric pump station in 30-16-13 to handle production of the Independent Oil & Gas Co.'s Devonian 7-15-13, and Page Bros. 14-15-12 and other production in this field, now amounting to from 4500 to 5000 barrels daily. The station will have a capacity of 10,000 barrels per day.

* * *

Berry V. Stoll, vice-president of the Stoll Oil Refining Co., Louisville, Ky., was elected a member of the board of park commissioners. The board has charge of the city's parks and recreational property and membership is an honorary political affair, paying no salary.

* * *

John F. Hayes, vice president of the American Oil Co. of Massachusetts, Cambridge, Mass., has been elected to the Cambridge School committee by a large vote, leading the ticket by 1000 votes, reports William J. O'Sullivan, treasurer of the company.

* * *

Wilson S. Eyre, assistant sales manager at Rochester, N. Y. for the New York Lubricating Oil Co., has left on a six weeks' trip to branch offices on the western coast. Mr. Eyre reports that Monogram sales have been good in western territory.

* * *

D. J. Devlin, general manager of Marine Paint & Varnish Co., Inc., New Orleans, will attend the meeting of the executive committee of the National Paint, Oil & Varnish Assoc. in New York during the week of Dec. 2. Mr. Devlin is vice president of the southern zone.

* * *

George A. Sonricker is now in charge of plant operations for the Gilmer Oil Co., Ringling, Calif., where he has made such changes in construction that they have placed this plant among the most efficient refineries in the country.

* * *

B. L. Morford, who formerly was in charge of the lease and land department of the Heck Oil Co., Spencer, W. Va., has entered the automobile business at Spencer.

* * *

H. I. Grandgerard, Paris representative for the Crown Central Petroleum Co., New York, has been spending a few weeks in New York.

* * *

W. B. Colter, Antigo, Wis., has joined the sales staff of Lindsay-McMillan Co., Milwaukee, and will cover northern Wisconsin.

Basil H. Anglin
Who was recently appointed vice president in charge of sales for the Indian Refining Co., Lawrenceville, Ill. Mr. Anglin was made sales manager a year ago.

H. T. West, president and treasurer of the H. T. West Co., Boston, Mass. spent September in England. He was accompanied by Mrs. West. Mr. West's trip was in the interests of his company's carbon black business and for his health.

* * *

John Fullbright, familiarly known as coal oil Johnnie of K-F-D-M", Magnolia Petroleum Co.'s radio station, who is assistant to Mr. Plumly of the company, was recently confined to his bed for a week by illness.

* * *

George Glessner, who has been chief clerk for the Indian Refining Co., Lawrenceville, Ill., for the past three years, has resigned to take a similar position with the Sinclair Refining Co.

* * *

Fred W. Hiam, district representative for the Standard Oil Co. of Ohio at Jefferson, O. returned the middle of October from a three weeks' trip to Eustis, Fla.

* * *

L. H. Meyer, owner of the Park Ave. Service Station, Rutherford, N. J., recently "took unto himself a wife," putting it in his own words.

* * *

Howard Edwards, tank truck driver for the Gulf Refining Co. at Mt. Airy, N. C., married Miss Pruitt of Brinn, N. C. on Nov. 22.

* * *

Ed Boyd, oil producer of Augusta, Kan., has returned from a trip to Cuba.

C. C. Hawkins, who has been superintendent of the Port Neches, Tex. plant of The Texas Co. for the past 14 years, has severed his connection with that company and has gone to Houston, to enter the oil business for himself.

Mr. Hawkins was also president of the chamber of commerce of Port Neches, president of the bank and head of the school board. He has lived 18 years at that point, having first been a chemist and superintending of a roofing plant there.

* * *

Robert S. Ellison, vice president of the Midwest Refining Co., Casper, Wyo., has returned to Casper after a brief visit at Chicago where he conferred with Col. Robert W. Stewart, chairman of the board of the Standard Oil Co. of Indiana, before the latter's departure for Venezuela.

* * *

D. G. Rice, manager of the Rice Oil Co., Johnstown, O., together with two other business men of that town, have just returned from a three weeks' deer hunt in northern Michigan. Hunting success was proven by a buck which accompanied each hunter home.

* * *

J. L. Rogers, of the Rogers & Mc-Kenney Oil Co., Dry Ridge, Ky., left during the week of Oct. 12 for Florida, where he will remain throughout the winter, according to C. E. Robbins, general manager of the Robbins Oil Co., Falmouth, Ky.

* * *

S. F. Shaw, consulting petroleum engineer at San Antonio, Tex., is at Independence making tests for C. G. Chandler, oil operator of Mirando City, of an installation of the Shaw process for increasing the flow of oil.

* * *

W. Dixon Ellis and Walter L. Day of the Valvoline Oil Co., at its Westfield, N. J. branch, have completed a trip of all the Valvoline filling stations in New England. Mr. Day is manager of sales at Westfield.

* * *

Frank Emerson, traveling salesman for The Pure Oil Co. at Minneapolis, was at Crosby, N. D. recently looking after business matters.

* * *

G. C. Bolick, cashier at Asheville, N. C. for the Standard Oil Co. of New Jersey, married Miss Alberta Galyean on November 15.

* * *

Gordon Meade Atherholt special investigator for the Golf Refining Co. of Port Arthur, Tex., has been transfered to Washington, D. C.

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Oil Patents Issued Recently

Production

Well Drilling Derrick.—Dallas D. Wertzberger, Tulsa. Filed Nov. 16, 1923. No. 1,563,412.

Oil Well Cementing.—Jack M. Owen, Long Beach, Cal. Filed April 2, 1924. No. 1,563,520.

Pipe Tongs.—John W. A. Andrae, Point Arena, Cal. Filed May 8, 1922. No. 1,563,542.

Well Drill and Tool.—John R. Walton, Harvey, Ill. Filed Nov. 27, 1923. No. 1,563,600.

Fishing Tool for Underreamer Bits.—William Ira McLaughlin, Oakland, Cal., assignor to Standard Oil Co. of California. Filed Feb. 7, 1923. No. 1,563,641.

Crown Block.—Edwin W. Goeser, Los Angeles, assignor to Emsco Tool Co. Filed April 7, 1924. No. 1,563,739.

Corel Drill.—Roland R. Crum, Whittier, Cal. Filed Aug. 12, 1922. No. 1,563,837.

Pipe Clamp.—George Krell, Sapulpa, Okla. Filed Dec. 5, 1924. No. 1,564,001.

Drill Bit.—George R. Watson, Waterloo, Ia., assignor to Armstrong Manufacturing Co. Filed June 19, 1924. No. 1,561,580.

Walking Beam.—John O. Keefover, Tulsa, Filed Aug. 3, 1925. No. 1,561,723.

Derrick.—Amos Lea Keltner, Tulsa, assignor to Walker S. Estes, Tulsa. Filed Jan. 19, 1924. No. 1,561,724.

Swivel.—Robert L. Smith, Houston, Tex. Filed Sept. 19, 1923. No. 1,561,750.

Pump Rod Ratchet for Oil Wells.—Ernest E. Lynch, Taft, Cal. Filed May 29, 1923. No. 1,561,873.

Tongs.—Elihu Clement Wilson, Los Angeles. Filed Sept. 12, 1921. No. 1,561,963.

Grip.—James P. Ratigan, Walnut Park, Cal. Filed Feb. 16, 1925. No. 1,562,053.

Tubular Holder.—Edward L. Pitts, Raton N. M., assignor one half to Chalkley C. Fisher, Okmulgee, Okla. Filed Oct. 20, 1924. No. 1,562,123.

Pump Rod Handling Device.—Frank William Carlson, Oilfields, Cal., assignor one half to John Nelson Scarlett and one fourth to Leland Erastis Axtell, Oilfields. Filed Dec. 2, 1924. No. 1,562,148.

Swab.—Ben P. Hoffman and Walter G. Bisbee, Bristow, Okla. Filed Nov. 19, 1923. No. 1,562,235.

Drill Pipe Coupling.—Waldo Sheldon, South Norwalk, Conn. Filed July 13, 1925. No. 1,562,373.

Refining

Condenser.—Edward W. Isom, Winnetka, Ill. and John E. Bell, Brooklyn, N. Y., assignors to Sinclair Refining Co. Filed May 19, 1921. No. 1,563,492.

Spiral Reflux Condenser.—Fay J. B. Raown, Shreveport, La. Filed May 25, 1923. No. 1,563,718.

Oil Cracking and Carbon Removing Method and Apparatus.—Lynton D. Wyant, Tulsa. Filed March 20, 1922. No. 1,563,818.

Apparatus for Distilling Oil.—George W. Wallace, East St. Louis, Ill. Filed May 20, 1922. No. 1,561,758.

Process for Cracking Petroleum.—Gustav Egloff, Chicago, assignor to Universal Oil Products Co. Filed Oct. 19, 1923. No. 1,561,779.

Process for Extracting Benzols from Heavy Oils.—Emile Augustin Barbet, Paris. Filed March 21, 1921. No. 1,561,899.

Method of Treating Oils.—Paul. W. Prutzman, Los Angeles, assignor to General Petroleum Corp. Filed Sept. 2, 1922. No. 1,561,999.

Process for Removing Acids from Oils.—Paul W. Prutzman and Paul D. Barton assignors to General Petroleum Corp. Filed Sept. 2, 1922. No. 1,562,000.

Method of Treating Oil.—Paul W. Prutzman and Carl J. von Bibra, assignors to General Petroleum Corp. Filed June 19, 1920. No. 1,562,009.

Apparatus for the Fractionation of Petroleum.—Henry P. Straus, New York. Filed June 19, 1920. No. 1,562,000.

Method of Purifying Hydrocarbons.—Adolph Greensnan, Minatitlan, Vera Cruz, Mexico. Filed Nov. 19, 1922. No. 1,562,425.

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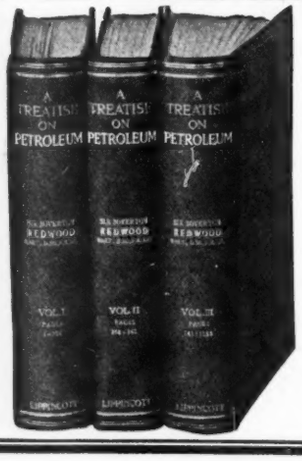

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New Oil Station Construction

Sullivan, Mo. — Shaffer & Williams Oil Co., with officers here, will erect two filling stations, reports J. T. Williams, manager.

* * *

Geneva, O. — Standard Oil Co. of Ohio is building service station, to be equipped with five pumps.

* * *

Hammond, La.—Louisiana-Mississippi Oil Co., Inc., to build bulk station.

* * *

Granville, O.—J. S. Jones bought property for filling station.

* * *

Worthington, W. Va.—Dixie Oil Co. erecting service station.

* * *

South Boston, Va.—Service Oil Co. building filling station.

* * *

Kirksville, Mo.—Richardson Oil Co. building filling station.

* * *

Glasco, Kan.—Sinclair Refining Co. building filling station.

* * *

Wilkes Barre, Pa.—Miller Oil Co. building filling station.

* * *

Spartanburg, S. C.—The Texas Co. to build $15,000 station.

GREENVILLE, ILL.—Edwards Bros. Construction Co. has just completed its contract with Pierce Petroleum Corp., St. Louis, Mo., whereby the former erected bulk stations in Illinois and Missouri for the Pierce, according to H. C. Edwards, president.

BOSTON.—H. T. West Co. has installed during the past three years several warehouses, tanking facilities for special oils and alcohol, testing laboratory, mixing kettles and general distribution equipment.

CAMBRIDGE, MASS.—American Oil Co. of Massachusetts, with headquarters here, has completed two stations, one at Boston and one at Medford, Mass., reports William J. O'Sullivan, treasurer.

SLAYTON, MINN.—Slayton Auto Co. is installing new storage tank for distillate to care for the increasing number of oil burners that are being installed, according to J. K. Bennett, proprietor.

STERLING, COLO.—Boggs Auto Supply Co. is building a garage extension to its present structure. The extension will be 75 by 100 feet and will be the home of the Nash, reports C. O. Boggs.

ON THE LAZY BENCH

Autointoxication

At a dinner party an elderly lady of very prim and severe aspect was seated next to a young couple who were discussing the merits of their motor cars.

"What color is your body?" the young man asked the girl.

"Oh, mine is pink. What is yours?"

"Mine," replied the young man, "is brown with wide yellow stripes."

This was too much for the old lady. Rising from the table, she exclaimed to her hostess:

"I really must be excused. When young people ask each other such personal questions at a dinner party it is time I left the room."

◈ ◈ ◈

One of the stories which has traveled from this country to England concerns a negro who was charged with stealing chickens.

"Have you any witnesses you wish to call?" asked the judge in a grave voice.

Sambo threw out his chest proudly.

"Dis niggah," he said, "nebbah steals chickens in front ob witnesses!"

◈ ◈ ◈

Another English periodical tells of the minister who sent his Scotch servant to clean the wine cellar. Shortly afterward he looked in and discovered Sandy draining the bottles of their dregs.

"I am afraid it's no use, Sandy," he said. "They're all 'dead men.'"

"Ye're richt, sir," replied Sandy, "but its guid to ken that the meenister was wi 'them when they passed awa'."

◈ ◈ ◈

What He wanted

A contractor, having received supplies he did not want, wired the equipment house as follows: "I want rear wheels, hind wheels, back wheels. Dammit." We take it that he didn't want front wheels.

◈ ◈ ◈

Settled Beforehand

Guest: "Are you sure your wife knows I'm coming home with you for dinner?"

"Doc" Rigsbee: "She ought to. I argued with her for a whole hour about it."

—Pure Oil News

◈ ◈ ◈

The Hunting Season's On

Tom: "I like most any kind of wild game, that is, if it is really wild."

Mabel: "Sounds interesting. I hope you know a good one."

—Keene Thrusts

Just a Slip of the Lip

Bess: "It's all off between Dot and Harry, the engagement is broken."

Jess: What was the trouble, family interfere?"

Bess: "No, Dot asked him whether her lips were really the only ones he'd ever kissed."

Jess: "Well, what did that have to do with it?"

Bess: "He said they were, and the sweetest, too."

—Keene Thrusts

◈ ◈ ◈

The African Baptist Church was making a drive for funds and two colored sisters were bearing down hard on Uncle Rastus—

"I can't give nothin," exclaimed the old darkey. "I owes nearly everybody in this here ole town already."

"But," said one of the collectors, "don't you think you owe the Lord something, too?"

"I does sister, indeed," said the old man; "but he ain't pushing me like my other creditors is."

—The Atlantic Seal

◈ ◈ ◈

Our Annual Christmas Story

Little six-year-old Harry was asked by his Sunday School teacher: "And, Harry, what are you going to give your darling little brother for Christmas this year?"

"I dunno," said Harry, "last year I gave him the chicken pox."

—Pure Oil News

◈ ◈ ◈

Two brothers were being entertained by a rich friend. As ill luck would have it, the talk drifted away from ordinary topics.

"Do you like Omar Khayyam?" thoughtlessly asked the host, trying to make conversation. The elder brother plunged heroically into the breach.

"Pretty well," he said, "But I prefer Chianti."

Nothing more was said on this subject until the brothers were on their way home.

"Bill," said the younger brother, breaking a painful silence, "why can't you leave things that you don't understand to me? Omar Khayyam ain't a wine, you chump; it's a cheese."

◈ ◈ ◈

Women's love for dry goods and men's love for wet goods are both responsible for wrecking many a happy home.

—Pure Oil News

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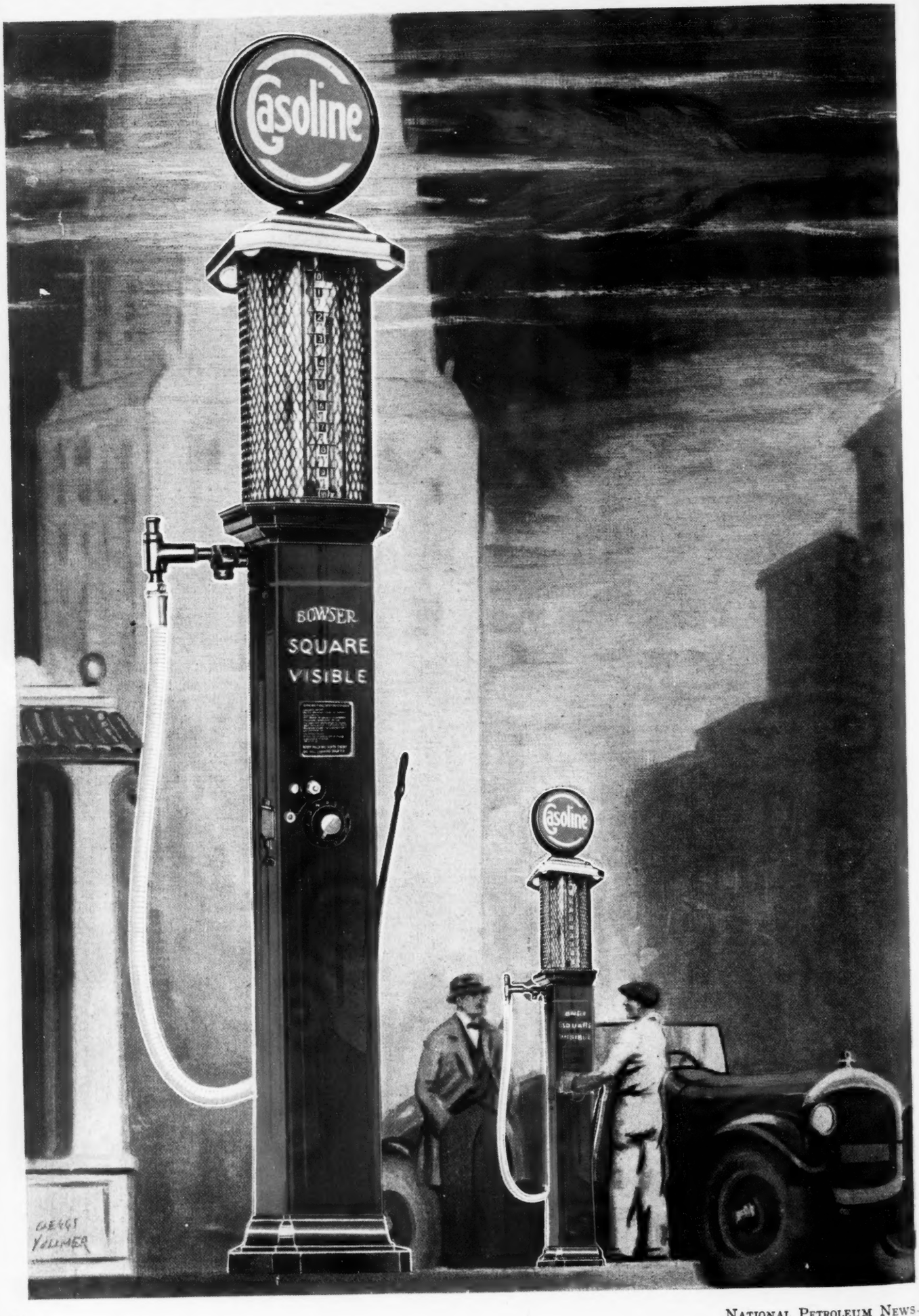
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REFINERY-TANK WAGON MARKETS

Group 3 Gasoline Prices Sag As Demand Slackens

Staff Special

TULSA, Dec. 12

RESPONSIVE this year to the slightest variation in the rate of demand, Mid-Continent gasoline markets have sagged slightly during the past week. Distributors have bought sparingly, largely as a result of the recent cold wave.

Burning oils have maintained their strength without change. Stove distillates have been quiet since the upturn expected in consumption has not yet arrived. Fuel oils have rocked along without startling development of any sort.

At the beginning of this week most of the important refiners in the field were quoting 58-60 U. S. Motor gasoline to the trade at 10½ cents per gallon. Although refiners had been drawing on their gasoline stocks during the previous week the market never became firmly entrenched at the 10½ cent level. A few were selling at 10¼ cents at the strongest period. All this week the number demanding 10½ cents has been decreasing.

Refiners' Policy

Throughout a greater part of this year it has been a settled policy of refiners to keep their gasoline moving. If shipments slow up to a point where stocks begin to pile up the refiners remedy the situation by curtailing their production, reducing the price or both as the situation may seem to warrant.

It may be expected that refiners will continue this policy at least until the first of 1926. If demand does not pick up in the next week or so it may be predicted with assurance that refinery runs will be cut. After Jan. 1, refiners undoubtedly will begin on a program of stock accumulation in anticipation of the peak demand next summer.

Accumulation of gasoline will be greatest at the plants of those refiners that have their own system of stations and at plants that have a large number of contracts that call for the delivery of a maximum amount of motor fuels during the summer months. The smaller plants which sell a majority of their output on a day to day basis have been maintaining a policy of low inventories the year around with better success than in previous years when it was thought necessary for every refiner to build up a reserve for summer needs. The difficulty always arose as a result of the fact that estimates of the probable summer consumption were always too high.

It is interesting to note that the group of plants which report weekly to this publication on their operations showed almost identically the same volume of gasoline in storage on Dec. 1 this year that they did at the same period a year ago. In terms of days supply the stocks are lower since current shipments are greater than they were at the same time a year ago.

At the end of December last year gasoline stocks held by this group was a little less than 60,000,000 gallons and peak stocks of the year were roundly 85,000,000 gallons. The peak was at the end of March.

Exporters Not Active

Exporters have not been active purchasers of gasoline in the Mid-Continent during the last two weeks which has been one reason for the sluggishness of the market. The Carson Petroleum Co. is reported to have bought about 500,000 gallons of 64-66, 375 end point gasoline out of north Texas at the beginning of the week but since that time overseas buyers have shown little interest in the market. A few scattered sales of 64 were reported out of north Texas late in the week at around 12⅝ cents per gallon, a fall of ⅛ cent from the top price of 12¾ cents.

High gravity materials have been offered more freely this week than at any time in the last two months. At least some of the refiners who were not inclined to sell at the price offered by exporters late in November are getting fairly well caught up on their shipping instructions and are offering out 64 to the domestic trade.

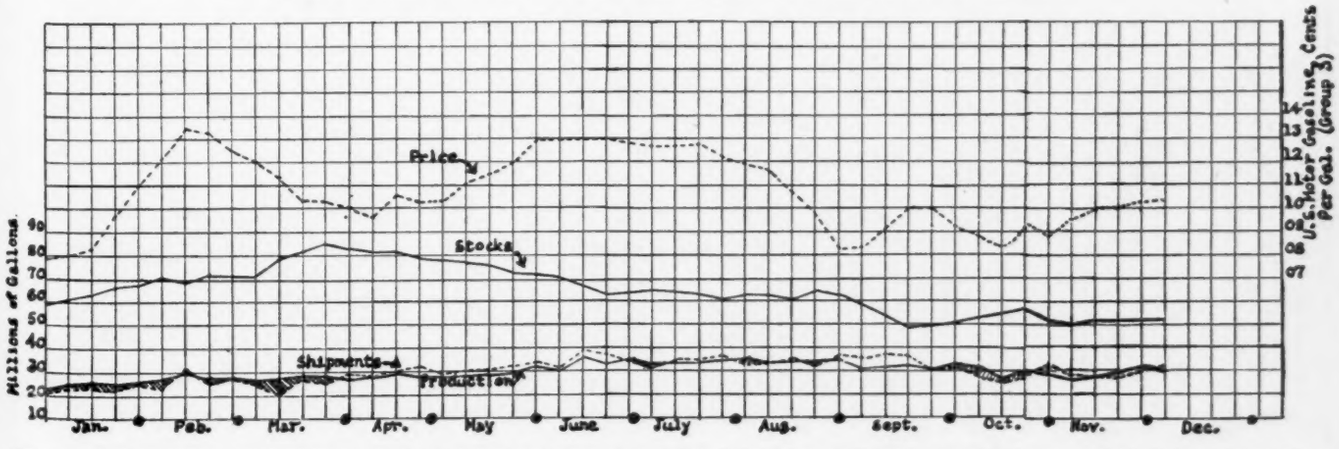
Natural Gasolines Strong

The strongest spot in the market has been natural gasoline. With warmer weather production of Grade C has decreased rapidly and refiners have been seeking that grade because of its cheapness as compared with Grade A and Grade B. The result has been that Grade C can be purchased only in small quantities and buyers must shop around through the field very thoroughly to pick up more than scattered cars.

Grade A has been more plentiful both in Texas and Oklahoma. One manufacturer lowered his price of Grade A

(Continued on page 101)

Barometer of the Mid-Continent Gasoline Market



Relation of the Group Three price of U. S. Motor Gasoline to Production, Shipments and Stocks of Gasoline at the 124 Mid-Continent plants reporting their figures weekly to National Petroleum News.

[*Pennsylvania*]

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Large local tank wagon and consumer distribution of gasoline and lubricants

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NATIONAL PETROLEUM NEWS
CLEVELAND, OHIO

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

	Prices Dec. 14	Prices Dec. 7	Prices Nov. 30
PENNSYLVANIA			
52-54 Naphtha	11¾-12¼	11½-12	11¼-11½
54-56 Naphtha	12¼-12½	12 -12¼	11¾-12
58-60 Gasoline	12¾-13	12½-12¾	12¼ 12½
60-62 Straight-run gasoline	13¾-14	13½-13¾	13 -13¼
62-64 Straight-run gasoline	14¼-14½	14 -14½	13½-14
64-66 Straight-run gasoline	15 -15¼	14¾-15	14½-15
68-70 Straight-run gas. 350-360 E.P.	-16¾	16½-17	-17
68-70 Straight-run gas. 305-320 E.P.	-20	19½-20	-19½
70-72 Straight-run gas. 300-305 E.P.	-21	20½-21	-20½
OKLAHOMA			
48-50 450 E. P. naphtha	- 9¼	- 9¼	- 9¼
50-52 450 E. P. naphtha	- 9¼	- 9¼	- 9¼
56-58 450 E. P. gasoline	9¼- 9½	9¾-10	- 9¾
56-58 U. S. Motor gasoline	- 9¾	10 -10¼	-10
58-60 U. S. Motor 437 E. P.	-10	10¼-10½	-10¼
60-62 400 E. P. gasoline	11½-11¾	11⅝-11¾	11¾-12
64-66 375 E. P. gasoline	12½-12¾	12⅝-12¾	-12¾
68-70 350-360 E. P. gasoline	13 -13¼	13½-13¾	13½-13¾
KANSAS*			
56-58 450 E. P. gasoline	10 -10½	10 -10½	10 -10¼
58-60 U. S. Motor gasoline	10½-10¾	10¼-10¾	10¼-10½
60-62 400 E. P. gasoline	12 -12¼	12 -12¼	12 -12¼
64-66 375 E. P. gasoline	13 -13¼	13 -13¼	13 -13¼

*F. O. B. refinery, Kansas destination.

NORTH TEXAS			
48-52 450 E. P. naphtha	9 - 9¼	9 - 9¼	8¾- 9
56-58 450 E. P. gasoline	- 9½	9½- 9¾	- 9½
58-60 450 E. P. gasoline	9¾ 10	9¾-10	- 9¾
58-60 U. S. Motor gasoline	10 -10¼	10⅜-10¼	10 -10¼
60-62 400 E. P. gasoline	-11¾	-11¾	-11¾
64-66 390 E. P. gasoline	12½-12⅝	12½-12⅝	12¼-12½
64-66 375 E. P. gasoline	12¾-12¾	12¾-13	12½-12¾
68-70 350-360 E. P. gasoline	13½-13¾	13½-13¾	-13½
NORTH LOUISIANA			
58-60 U. S. Motor 437 E P	-10½	10½-10¾	10½-10¾
ARKANSAS			
58-60 450 E. P gasoline	10 -10¼	-10¼	-10¼
58-60 U. S. Motor gasoline	10½-10¾	10½-10¾	-10½
64-66 375 E. P. gasoline	12¾-13	12¾-13	12¾-13
CALIFORNIA			
54-56 U. S. Motor gasoline	- 9	- 9	-11
42-45 Engine distillate, 445-480 E.P.	6¼- 7	6¼- 7	6¼- 7

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND (F. O. B. Boston and Fall River)			
U. S. Motor gasoline	-12⅝	-12½	-11⅞

NATURAL GASOLINE

(Note: End point of all grades, not over 375°F.)

OKLAHOMA			
Grade Double A	-11	-11¼	-11¼
Grade A	-11	-11¼	-11¼
Grade Double B	10¼-10½	-10¼	10¼-10½
Grade B	10¼-10½	-10¼	10¼-10½
Grade C	- 9½	9¼- 9½	9¼- 9½

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH TEXAS			
*Grade Double A	10⅞-11⅛	11 -11¼	-11¼
*Grade A	10⅞-11⅛	11 -11¼	-11¼
*Grade Double B	10¼-10½	10 -10¼	10¼-10½
*Grade B	10¼-10½	10 -10¼	10¼-10½
*Grade C	9½- 9¾	9¼- 9½	9¼- 9½

*F. O. B. Breckenridge.

CALIFORNIA			
73-78° 375 E. P.	13 -13½	13 -13½	12½-13
PENNSYLVANIA			
68-70 Grav 437 E. P.	14¼-14¾	14¼-14¾	14 -14½
64-66 Grav. 437 E. P.	14¼-14¾	14 -14¼	13¾-14
60-62 Grav. 437 E. P.	13 -13¼	12¾-13	12½-13
68-70 Grav. 420 E. P.	14¾-15	14¼-14½	14 -14½

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	7½- 7¾	7½- 7¾	7½- 7⅝
46 Water White Kerosene	7¾- 8¼	7¾- 8¼	7¾- 8¼
47 Water White Kerosene	8½- 9	8½- 8¾	8¼- 8¾
300 Burning Oil	8 - 8¼	8 - 8¼	8 - 8¼
OKLAHOMA			
41-43 Water White Kerosene	5 - 5¼	5 - 5¼	5 - 5⅛
42-44 Water White Kerosene	5½- 5⅝	5½- 5⅝	5½- 5⅝
KANSAS			
41-43 w. w. kerosene	5¾- 6	5½- 6	5½- 5¾
NORTH TEXAS			
41-43 Water White Kerosene	5⅜- 5½	5¼- 5⅜	5 - 5¼
42-44 Water White Kerosene	5½- 5⅝	5½- 5⅝	5⅜- 5½

NORTH LOUISIANA	Prices Dec. 14	Prices Dec. 7	Prices Nov. 30
41-43 Water White Kerosene	5½- 5¾	5½- 5¾	5¼- 5¾
ARKANSAS			
41-43 Water White Kerosene	- 5¾	- 5¾	- 5¾
CALIFORNIA			
40-42 Water White Kerosene	5 - 5½	5 - 5½	7½- 8
NEW ENGLAND			
40-43 Water White Kerosene	- 8¼	- 7½	- 7¼

NEUTRAL OILS

PENNSYLVANIA			
(Viscosity at 70° F.)			
220 Vis. No. 3 Assoc. Filt.	27 -27½	27 -27½	-27
200 Vis. No. 3 Assoc. Filt.	24½-25	24½-25	24 -24¼
180 Vis. No. 3 Assoc. Filt.	22 -23	22 -23	21½-22
150 Vis. No. 3 Assoc. Filt.	18 -19	18 -19	17½-18
(Non-Viscous)			
34 Grav. 350-360 Flash	7¾- 8	7¾- 8	- 7½
36 Miners Neutrals 300-305 Flash	6¾- 7¼	6¾- 7¼	- 6½
OKLAHOMA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	5½- 8	5½- 8	5½- 8
100 Vis. No. 2½-3 color	- 8¼	- 8¼	- 8¼
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 8¾	- 8¾	- 8¾
180 Vis. No. 3 color	9¾-10¼	9¾-10¼	9¾-10¼
180 Vis. No. 4 color	9½-10½	9½-10½	9½-10½
180 Vis. No. 5 color	- 9¼	- 9¼	- 9¼
200 Vis. No. 3 color	10¾-11½	10¾-11½	10¾-11½
200 Vis. No. 4 color	-10½	-10½	-10½
200 Vis. No. 5 color	9½-10½	9½-10½	9½-10½
220 Vis. No. 3 color	-11¾	-11¾	-11¾
220 Vis. No. 4 color	12 -12½	12 -12½	12 -12½
220 Vis. No. 5 color	-11¾	-11¾	-11¾
240 Vis. No. 3 color	-14	-14	-14
240 Vis. No. 4 color	-13½	-13½	-13½
240 Vis. No. 5 color	-13	-13	-13
280 Vis. No. 3 color	-16	-16	-16
280 Vis. No. 4 color	-15½	-15½	-15½
280 Vis. No. 5 color	-15	-15	-15
300 Vis. No. 5-6 color	17 -17½	17 -17½	17 -17½
GULF COASTAL			
(Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	7½- 8	7½- 8	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	12 -12½	12 -12½	12 -12½
300 Vis. No. 3 Color Unfilt. Pale	13½-14	13½-14	13½-14
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	15½-16	15½-16
750 Vis. No. 4 Color Unfilt. Pale	20 -20½	20 -20½	20 -20½
200 Vis. No. 5½ Color Red Oil	10 -10½	10 -10½	10½-11
300 Vis. No. 5½ Color Red Oil	12 -12½	12 -12½	12½-13
500 Vis. No. 6 Color Red Oil	13½-14	13½-14	14 -14½
750 Vis. No. 6 Color Red Oil	18 -18½	18 -18½	18 -18½
CALIFORNIA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	13½-14½	13½-14½	13½-14½
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15½	14½-15½	14½-15½
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20½	19½-20½	19½-20½
550 Vis. No. 3 color	21½-22½	21½-22½	21½-22½
600 Vis. No. 3½ color	23½-24½	23½-24½	23½-24½
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14½	13½-14½	13½-14½
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20½	19½-20½	19½-20½

CYLINDER STOCKS

OKLAHOMA			
190-210 Vis. at 210° Bright Stock	30 -35	30 -35	30 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock, 140-150 Vis @ 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8½-10	8½-10	8 -10
600 Steam Refined Dark Green	6 - 6¾	6 - 6¾	5¼- 6
Black Oil	- 5	- 5	5 - 5¼
PENNSYLVANIA			
(1-inch Immersion Test)			
600 Steam Refined	16½-17½	17 -18	16½-17
635 Steam Refined	20½-21	20½-21	20½-21
650 Steam Refined	23 -23½	23 -23½	22½-23
600 Flash	26¾-27¼	26¾-27¼	26 -26½
600 Warren E	-22	-22	21¾-22
600 Oil City E	-21	-21	20½-21
600 Filtered D	-27	-27	26½-27
Cold Test Stocks (bright filtered)	39 -39½	-39	39 -40
Cold Test Stock (dark filtered)	37 -37½	-37	37 -38
Black Oil	- 8	- 8½	- 8

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

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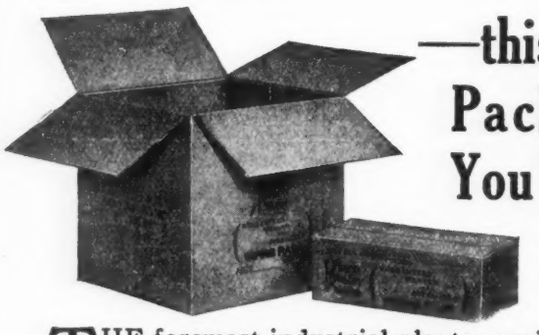

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THE foremost industrial plants specify Kleen Kwality Kloths when they order bales of wiping rags. They want the clean, sterilized, lintless wipers that the name Kleen Kwality Kloth assures. *Now,* oil men who use less-than-bale quantities can get this same protection. Kleen Kwality Kloths are put up in 10 lb. packages, six pkges. to the carton.

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Kleen Kwality Kloths

Senne Appoints Safety Section Committee

NEW YORK, Dec. 12.—E. J. Senne, Vacuum Oil Co., New York, chairman of the Petroleum Section of the National Safety Council, has appointed an executive committee consisting of the officers of the section who are Dr. R. P. Anderson, American Petroleum Institute, New York, general vice-chairman; Roy W. Kelly, Associated Oil Co., San Francisco, chairman, Pacific coast division; Ray E. Miller, Mid-Continent Oil and Gas Association, chairman, Mid-Continent division; T. W. Waddington, Standard Oil Co. of New Jersey, Elizabeth, N. J., chairman, Atlantic Coast division; Frank A. Epps, Tide Water Oil Co., New York, secretary, and the following:

Roy S. Bonsib, Standard Oil Co. of New Jersey, New York; H. W. Boggess, Sinclair companies, Kansas City; J. D. Bright, Texhoma Oil & Refining Co., Wichita Falls Texas; W. F. Burt, Standard Oil Co. of New York, New York; J. S. Gibson, Prairie Pipe Line Co., Independence, Kans.; R. J. Lauder, Roxana Petroleum Corp., St. Louis; S. H. McKenty, Atlantic Refining Co., Philadelphia; E. D. Murphy, Mid-Continent Petroleum Corp., Tulsa; George F. Prussing, Union Oil Co., San Francisco; T. N. Shaw, Midwest Refining Co., Casper, Wyo.; J. M. Steffen, Standard Oil Co. of Kansas, Neodesha, Kans.; D. J. Wallace, Humble Oil & Refining Co., Houston; F. T. Sloan, Tide Water Oil Co., New York; C. W. Smith, Standard Oil Co. of Indiana, Whiting, Ind., and V. R. Currie, The Texas Co., Houston.

Northern Pacific Uses Gasoline Cars

SPOKANE, WASH., Dec. 14.—Three gasoline electric motor cars, to be used on short runs, have been put into service by the Northern Pacific Railway Co. here. Gasoline consumption of each of these cars is one gallon to one and three quarter miles, while motor oil consumption is about one pint per 100 miles.

The car is composed of four compartments, the engine, baggage, smoking and main passenger compartments. It seats 52 persons, weighs 70,000 pounds, and the body is of steel construction.

The railway company recently installed a 10,000-gallon storage tank for gasoline in its yards here. The gasoline cars were put into service to meet bus competition and to give faster and comfortable transportation.

It is reported that other railway companies are using these cars and additional ones will install them in the north west.

HOUSTON,—Miss H. T. Kniker, micro-paleontologist, formerly with the Texas Co. here, has resigned and has joined the geological staff of Floyd Dodson, Abilene, Tex.

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Dec. 14	Prices Dec. 7	Prices Nov. 30
	(Per Pound New York)		
122-124 White Crude Scale..	- 5¾	- 5¾	5¾- 6
124-126 White Crude Scale..	- 6	- 6	6 - 6¼
OKLAHOMA			
	(Per Pound Group 3)		
124-126 White Crude Scale..	5¼- 5¾	5¾- 5½	5¾- 5¾
CALIFORNIA			
White Crude Scale.....	7½- 8	7½- 8	7½- 8

(San Joaquin Valley, San Francisco 4c per bbl. more.)

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	6 - 6½	6 - 6¾	- 6
30-34 Fuel Oil.....	5¾- 6¼	5¾- 6¼	- 5¾
28-30 Fuel Oil.....	5½- 6	5½- 6	- 5½
OKLAHOMA			
38-40 Straw distillate.....	4 - 4¼	4 - 4¼	4 - 4¼
36-38 Straw distillate.....	3⅞- 4	3⅞- 4	- 3⅞
32-36 Gas oil	3½- 3¾	3½- 3¾	3½- 3¾
26-30 Fuel oil (Bbl.).....	1.30 -1.35	1.30 -1.35	1.30 -1.35
24-26 Fuel oil (Bbl.).....	1.25 -1.30	1.25 -1.30	1.25 -1.30
18-22 Fuel oil (Bbl.).....	1.20 -1.25	1.20 -1.25	1.20 -1.22½
KANSAS*			
38-40 Light straw distillate..	4⅛- 4¼	4⅛- 4¼	4⅛- 4¼
36-38 Light straw distillate..	4 - 4⅛	4 - 4⅛	- 4
32-36 gas oil	3¾- 4	3¾- 4	3¾- 3⅞
26-30 Fuel oil	1.35 -1.40	1.35 -1.40	1.30 -1.35
24-26 Fuel oil.....	1.30 -1.35	1.30 -1.35	1.35 -1.40

*F. O. B. refinery, Kansas destination.

NORTH TEXAS	Prices Dec. 14	Prices Dec. 7	Prices Nov. 30
36-40 Straw Distillate.....	4 - 4¼	4 - 4¼	3¾- 4
32-36 Gas Oil (Gal.).....	3¾- 4	3¾- 4	3½- 3⅝
24-26 Fuel per bbl	1.60 -1.70	1.60 -1.70	1.35-1.40
GULF COASTAL			
Fuel.....	1.45 -1.50	1.45 -1.50	1.45 -1.50
Gas Oil.....	4½- 4¾	4½- 4¾	4½- 4¾
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)....	3½- 3¾	- 3¾	- 3¾
18-22 Fuel Oil (Bbl.).....	1.05 -1.10	-1.00	-1.00
ARKANSAS			
32-36 Gas Oil.....	3¾ - 4	- 3¾	- 3¾
Smackover Crude Fuel.....	1.02½-1.05	1.02½-1.05	-1.05
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.)	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15

*Prices at southern California points. Prices at San Francisco and other coast points 5c per bbl. higher. San Joaquin Valley 10c per bbl. less.

NEW ENGLAND (F. O. B. Boston and Fall River)			
30-32 gas oil (gal.).....	- 5¾	- 5¼	- 5⅜
Fuel Oil (Bunker C) bbl.....	-1.79	-1.68	-1.70

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 97)

today to 10⅞ cents per gallon to capture a 20-car order. There has been plenty of this grade available most of the week at 11 to 11¼ cents per gallon.

Natural gasoline manufacturers are busy these days negotiating contracts with their consumers for 1926. The New Orleans Refining Co. is reported to have contracted for the delivery of around 700 cars per month of Grade B or better for 1926 delivery. This company has used only a fraction of that amount during the last 12 months and manufacturers are looking forward to a better demand next year and satisfactory prices. For that reason there is a good deal of sparring between buyer and seller.

Kerosene Scarce

In virtually every part of the Mid-Continent field kerosene is scarce. In Texas refiners are selling 41-43 water white at 5⅜ to 5½ cents in limited quantities. Export buying of burning oils appears to have cleaned up nearly all reserve stocks available in the field and refiners are well sold ahead for the next 30 days.

Oklahoma kerosene is firm at 5 to 5¼ cents on 41-43 water white but has not been as tight as in Texas. The 42-44 grade is limited at 5½ cents and upwards.

Stocks of kerosene at 124 plants in the Mid-Continent field on Dec. 4 totaled only 11,667,155 gallons. On approximately the same date a year ago stocks were reported as being 21,131,149 gallons.

Stove distillate business has not picked up as much as was expected in some quarters. The cold wave of a week ago failed to bring an influx of orders. Prices have been steady at 3⅞ to 4⅛ cents per gallon on the various grades of light straw distillate. In north Texas the price of fuel oil is higher than that of either gas oil or distillate and refiners have virtually ceased making the lighter products. The whole heavy oil cut is thrown into fuel and being sold as such.

Fuel Oils

In north Texas fuel oil has climbed to $1.60 to $1.70 per barrel and little is available at any price. Heavy railroad buying for December came at a time when there was good demand for industrial purposes and drilling of wildcats in the vicinity of Wichita Falls.

In Oklahoma fuel oil demand has been only fair. Some refiners obligated a large part of their fuel over and above railroad contract requirements at the first of the month and are not anxious for new business. Marketers have been long on fuel virtually all of the fall since the coal strike began and reports here are that in Chicago fuel may be bought on the tracks at around 5 cents per barrel under the going market in Group 3.

Fuel oil stocks in the Mid-Continent are relatively large for this time of the year. Refiners are looking forward to a good business during the first three months of the new year and are not inclined to bid for orders. The 18-22 grade is selling at $1.20 to $1.25, 24-26 at $1.25 to $1.30 and 26-30 at $1.30 to $1.35 per barrel.

Lubricating Oils

Steam refined cylinder stock continues to be in demand. Manufacturers of this grade of oil have cleaned up their stocks in most cases and are shipping now as the material comes from the stills. Bright stocks are well held. The neutral oil market is steady with no changes in current listings for the week.

Crude scale wax appears to be somewhat weaker. On January business buyers are refusing to consider offers of 5⅜ cents per pound and some business has been done as low as 5⅛ cents. On odd cars for spot movement prices are still about at the level of recent weeks.

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

Motor Gasoline Slightly Weaker at Chicago

CHICAGO, Dec. 12.—A slight weakening in the gasoline market of this week drew to a close is about the only feature worthy of note in the Chicago resale market. The price of U. S. Motor gasoline was firm and business fairly steady during the first half of the week at 10¼ cents with an occasional car moving at 10½ cents and some refiners asking 10½ cents of all inquirers.

About the middle of the afternoon of Dec. 10 a slight softness was observed. By noon Dec. 11 the softness had developed into a weakness and that weakness continued over the half business day today in spite of the 25-cent advance in the price of Pennsylvania crude oil. This time, as several times before in recent months, a crude price advance in the east has not caused any reaction in the Chicago market which directly reflects Group 3. At the end of the week U. S. Motor was obtainable in Chicago at 10 cents with some business done at 10¼ cents.

High gravity gasolines have not suffered with U. S. Motor to the extent that they showed any price reaction. Export grade goods, 64-66 375 e.p. gasoline, are firm at prices that have been quoted generally for two weeks. The going price appears to be 13 cents with some shading to 12¾ cents occasionally. The strength of this material seems to be due to buying for overseas shipment. The strength of kerosene also appears to be attributable to the same thing.

The volume of business on kerosene has not been large over the past week but advances in export prices have been recorded in other parts of the country and there have been several kerosene tank wagon price advances recently. Kerosene of 41-43 gravity is quoted at 5⅛ to 5¼ cents, as it was last week, and 42-44 seems even a little firmer at 5¾ cents than it has been recently.

Improvement has been observed in the demand for 38-40 domestic oil fuel. The price has not changed materially for several days but the market could not be considered weak. The price is firm at 4⅛ to 4¼ cents, exactly 1 cent lower than 41-43 kerosene. Zero gas oil is slightly more active at 3¾ to 4 cents a gallon but ordinary dark gas oil can be purchased as low as 3⅝ to 3¾ cents.

Fuel oil prices have not changed any since last week. Oklahoma 24-26 refinery fuel holds steady at $1.30 and 18-22 is firm at $1.25 as it has been for two or three weeks. Smackover crude fuel remains slow at $1.02½ to $1.05.

Except for the region of the Great Lakes there has been no precipitation over the past week, and most of the snowfall has been on the Canadian side of the lakes or as far east as Lake Erie. Temperatures have not run unseasonably low yet, for besides having dry weather the United States has experienced no zero temperatures yet. Temperatures may be expected to run below normal next week, however, according to the weather bureau's prediction, and snows in the north and rains in the south may be expected late in the week.

Cushing Refining to Build Absorption Plant

Staff Special

TULSA, Dec. 12.—Cushing Refining & Gasoline Co. has announced that it will build an absorption type gasoline plant two miles south of Ripley in Section 32. Contract for installation of Newton process equipment has been placed with Hurley Brothers, Mid-Continent distributors for Newton.

Gas for the plant will be drawn from properties of the Mul-Berry Oil Co., from the Meehan field and other leases south of Ripley. The Mul-Berry Oil Co. is an affiliated company with the Cushing Refining & Gasoline Co.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of New York.—As reported on page 39 of the Dec. 9 issue of National Petroleum News, points in New York state, outside of New York City, were advanced 1 cent generally on Dec. 1. This advance is shown at Albany, Buffalo, Rochester and Syracuse in this week's tank wagon table.

Magnolia Petroleum.—T. w and s. s. prices advanced 1 cent, at Tulsa, Muskogee and Oklahoma City, to 19 cents and 22 cents respectively at all three points, Dec. 12. T. w. price only advanced 1 cent, to 20 cents, at Texarkana, and t. w. only at Fort Smith advanced ½ cent, to 18.5 cents, Dec. 9. T. w. and s. s. advanced 1 cent at Little Rock, to 18.5 cents and 21.5 cents respectively, Dec. 9. T. w. only reduced 2 cents at Dallas, to 15 cents, Dec. 7.

Standard of Indiana.—T. w. and s. s. prices advanced 2 cents at Minneapolis and St. Paul, Nov. 30. T. w. at Minneapolis now is 17.2 cents, and s. s. 19.2 cents.

Canadian.—Price war at Sydney, N. S., has brought s. s. price there to 29 cents, which is a reduction of 3 cents. T. w. price remains 28.5 cents.

Kerosene Changes

Standard of New York.—As reported on page 39 of the Dec. 9 issue, t. w. price of kerosene advanced ½ cent throughout New York and New England, to 15 cents generally, Dec. 8.

Standard of Louisiana.—T. w. price advanced 1 cent through territory, Dec. 9.

Magnolia Petroleum.—T. w. price advanced 2½ cents, Little Rock, to 12.5 cents, Dec. 9. Advanced 1 cent at Dallas, to 12 cents, Dec. 7.

Crude Price Changes

Dec. 10.—Ohio Oil Co. reduced Sunburst, Mont. crude 20 cents to $1.35 per barrel at the well.

Dec. 11.—Joseph Seep Purchasing Agency advanced Corning, O. crude 15 cents, to $1.95 per barrel.

Dec. 12.—Joseph Seep Purchasing Agency advanced all grades of Pennsylvania crude, excepting Gaines district, 25 cents. Bradford-Allegany district is $3.65, and other Pennsylvania $3.55. Pennsylvania grade in West Virginia is $3.50, and Macksburg, O. district, $3.30 per barrel.

TULSA.—H. P. Downs, marketer, and H. F. Boudreau, representing Lake Petroleum Co. and others, have consolidated under the name of Downs & Boudreau to engage in a general oil marketing business. The new company is located in the Atlas Life Bldg., Tulsa.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers.

These Prices in Effect December 14, 1925

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	15	0	15	*	14
Newark, N. J.	15	0	15	17	14
Annapolis, Md.	15	2	17	*	13.5
Baltimore, Md.	15	2	17	20	11
Cumberland, Md.	15	2	17	20	14
Washington D. C.	15	2	17	20	13
Danville, Va.	15	3	18	*	14
Norfolk, Va	15	3	18	21	14
Richmond, Va.	15	3	18	21	14
Roanoke, Va	15	3	18	21	14
Petersburg, Va.	15	3	18	*	14
Williamsburg, Va.	15	3	18	*	14
Charleston, W. Va.	15	3½	18.5	21.5	14
Clarksburg, W. Va.	15	3½	18.5	21.5	14
Keyser W. Va	15	3½	18.5	*	14
Parkersburg, W. Va.	15	3½	18.5	21.5	14
Wheeling, W. Va.	15	3½	18.5	21.5	14
Charlotte, N. C.	15	4	19	22	14
Hickory, N. C.	15	4	19	*	14
High Point, N. C.	15	4	19	*	14
Mt. Airy, N.C.	15	4	19	*	14
Salisbury, N. C.	15	4	19	*	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	17	0	17	21	15
Albany, N. Y.	†17	0	†17	†19	15
Buffalo, N. Y.	15	0	15	18	15
Rochester, N. Y.	†16	0	†16	†20	15
Syracuse, N. Y.	17	0	17	19	14
Boston, Mass.	17	0	17	21	13
Augusta, Me	17	3	20	23	15
Manchester, N. H.	17	2	19	23	15
Burlington, Vt	19	2	21	24.5	15

*In steel barrels.
†At Rochester and Albany, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	17	0	17	*22	13
Philadelphia, Pa.	17	0	17	*22	13
Allentown, Pa.	17	0	17	*22	13
Erie, Pa	17	0	17	*22	13
Scranton, Pa	17	0	17	*22	13
Altoona, Pa.	17	0	17	*22	13
Dover, Del.	17	2	19	22	13
Wilmington, Del.	17	2	19	22	13
Providence, R. I.	17	1	18	21	14
Springfield, Mass.	17	0	17	19	14.5
Worcester, Mass.	17	0	17	19	14.5
Hartford, Conn.	17	2	19	21	13.5
New Haven, Conn.	17	2	19	22	14
Boston, Mass.	17	0	17	20	14

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	15	3	18	21	14
Louisville, Ky.	17	3	20	23	12
Covington, Ky.	16	3	19	22	14
Clarksdale, Miss.	16	3	19	22	12
Jackson, Miss	16	3	19	22	11
Natchez, Miss.	15.5	3	18.5	21.5	11.5
Vicksburg, Miss.	15.5	3	18.5	21.5	11.5
Birmingham, Ala.	17	2	19	22	14.5
Mobile, Ala.	16	2	18	21	11
Montgomery, Ala*	18	2	20	23	15.5
Atlanta, Ga.	17.5	3½	21	24	13
Augusta, Ga.	18.5	3½	22	25	14.5
Macon, Ga.	18.5	3½	22	25	13.5
Savannah, Ga.	13.5	3½	17	20	13
Jacksonville, Fla.	16	4	20	23	13
Miami, Fla.	18	4	22	25	14.5
Tampa, Fla	16	4	20	23	13
Pensacola, Fla.	16	4	20	23	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†16	0	†16	18	11
Decatur, Ill.	11	0	11	13	11.5
E. St. Louis, Ill.	15.1	0	15.1	17.35	10.6
Joliet, Ill	16.4	0	16.4	18.4	11.7
Peoria, Ill.	10.5	0	10.5	12.5	11.5
Quincy, Ill	16.2	0	16.2	18.2	11.3
Indianapolis, Ind.	16.2	3	19.2	21.2	11.7
Evansville, Ind	15	3	18	20	11.5
South Bend, Ind.	16.4	3	19.4	21.4	11.9
Detroit, Mich	16.8	2	18.8	20.8	12.2
Grand Rapids, Mich.	16.7	2	18.7	20.7	12.1
Saginaw, Mich.	16.9	2	18.9	20.9	12.3
Madison, Wis.	16.3	2	18.3	20.3	11.5
Milwaukee, Wis.	16.1	2	18.1	20.1	11.3
La Crosse, Wis	17.2	2	19.2	21.2	12.4
Minneapolis, Minn.	15.2	2	17.2	19.2	12.6
Duluth, Minn	13.5	2	15.5	17.5	12.6
Mankato, Minn.	17.1	2	19.1	21.1	12.4
Des Moines, Iowa	13.5	2	15.5	17.5	11.9
Davenport, Iowa	16.5	2	18.5	20.5	11.9
Sioux City, Iowa	16	2	18	20	11.5
Mason City, Ia.	16.5	2	18.5	20.5	11.9
St. Louis, Mo.	**15.6	2	17.6	19.9	11
Kansas City, Mo.	††15.9	2	17.9	19.9	10.8
St. Joseph, Mo.	**16	2	18	20	10.9
Fargo, N. D.	18.9	1	19.9	21.9	14.6
Grand Forks, N. D.	19.2	1	20.2	22.2	14.9
Minot, N. D.	18.9	1	19.9	21.9	14.6
Pierre, S. D.	18	3	21	*	13.1
Huron, S. D.	13	3	16	18	13.1
Wichita, Kans	8.8	2	10.8	12.8	10.8
Bartlesville, Okla.	13.9	3	16.9	18.9	9.9

†Dumps of 100 or more gallons at 15c per gallon.
*S. O. Indiana does not operate station.
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	17	2	19	*	12.25
Omaha, Neb.	14.25	2	16.25	18.25	11.5
McCook	17.75	2	19.75	21.75	13
Norfolk	16.75	2	18.75	20.75	12
North Platte	17.75	2	19.75	21.75	12.75
Scottsbluff	17.25	2	19.25	21.25	12.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	16	2	18	20	14.5
Pueblo, Colo.	16	2	18	20	14.5
Casper, Wyo.	17	2½	19.5	21.5	13
Cheyenne, Wyo.	17	2½	19.5	21.5	14.5
Butte, Mont.	19	2	21	21	16
Helena, Mont.	21	2	23	25	17
Salt Lake City, Utah	18.5	3½	22	24	18
Boise, Ida.	20	3	23	25	20
Albuquerque, N.M.	20.5	3	23.5	26.5	16.5

S. O. CALIFORNIA

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	10.5	2	12.5	16.5	15.5
Fresno, Cal.	14.5	2	16.5	20.5	17.5
San Francisco, Cal.	14	2	16	20	15.5
Reno, Nev	17.5	4	21.5	25.5	19
Portland, Ore.	14	3	17	21	16.5
Seattle, Wash.	14	2	16	20	16.5
Spokane, Wash.	18	2	20	24	20.5
Tacoma, Wash.	14	2	16	20	16.5

S. O. LOUISIANA

Little Rock, Ark.	14.5	4	18.5	21.5	11.5
Alexandria, La.	14.5	2	16.5	19.5	12.5
Baton Rouge, La.	13.5	2	15.5	18.5	11
Lake Charles, La.	15	2	17	20	12.5
New Orleans, La	*15	2	17	20	11.5
Shreveport, La.	13.5	2	15.5	18.5	11.5
Lafayette, La.	14.5	2	16.5	19.5	12
Bristol, Tenn.	13.5	3	18.5	21.5	14
Chattanooga, Tenn.	14	3	17	20	14
Knoxville, Tenn.	15	3	18	21	14.5
Nashville, Tenn.	14	3	17	20	14
Memphis, Tenn.	13.5	3	16.5	19.5	13.5

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	16	2	18	20	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	16	3	19	22	10
Oklahoma City	16	3	19	22	12
Tulsa, Okla	16	3	19	22	12
Fort Smith, Ark.	14.5	4	18.5	21	11
Little Rock, Ark.	14.5	4	18.5	21.5	12.5
Texarkana, Ark*	16	4	20	23	14.5
Dallas, Tex.	14	1	15	19	12
El Paso, Tex	17	1	18	19	13
Fort Worth, Tex.	13	1	14	16	10
Houston, Tex	16	1	17	19	12
San Antonio, Tex	12	1	13	15	10

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

V. M. & P. NAPHTHA

Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.& P. Naphtha	Cleaners Naphtha
Chicago	1b	20	20
Detroit	19.2	21.7	21.7
Kansas City	18.2	20.2	20.2
Milwaukee	18.2	22.7*	22.7*
Minneapolis	19.5	24*	24*
St. Louis	17.4	19.9	21.9
New York		17	

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	23.5	3	26.5	30	20
Ottawa	24.5	3	27.5	31	21
Cochrane	28.5	3	31.5	35	24.5
Ft. William	27.5	3	30.5	34	22.5

MANITOBA

Winnipeg	27.5	3	30.5	34	22.5

SASKATCHEWAN

Regina	30.5	0	30.5	34	25.5

ALBERTA

Edmonton	31.5	2	33.5	37	27.5
Calgary	29.5	2	31.5	35	25.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	23

QUEBEC

Montreal	23.5	3	26.5	30	20
Quebec City	25.5	3	28.5	31	22
Three Rivers	25.5	3	28.5	32	22

NEW BRUNSWICK

St. John	26.5	0	26.5	30	25
Moncton	26.5	0	26.5	30	25

NOVA SCOTIA

Halifax	26.5	0	26.5	30	28
Sydney	28.5	0	28.5	29	25

PRINCE EDWARD ISLAND

Charlottetown	26.5	2	28.5	33	23

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York Gulf Coast California

Export Market On Up Grade, Kerosene, Fuel Oil Strong

By Special Correspondent
NEW YORK, Dec. 14

FAIRLY heavy export buying featured the Gulf section last week. At least three bulk cargoes were booked by one of the leading refiners, while a big Philadelphia refiner also closed a mixed cargo. Of the above sales three were for French account and one for shipment to Spain.

Kerosene resumed the upward swing both locally and in the Gulf section reflecting a marked increase in both domestic and export demand. Fuel oils were also stronger. Gas oil offerings are lighter.

Some of the smaller wax brokers complain that the big refiners are selling at very low prices abroad but are keeping domestic quotations up so that the smaller factors over here are unable to compete for the foreign business.

Export Gasoline—New York

One of the large Independents at New York reported an inquiry for a mixed cargo of 45,000 barrels of U. S. Motor, 64 gravity and prime and water white kerosene for January shipment to the Continent. This factor is still working on it. A leading Philadelphia refiner booked a cargo of 35,000 barrels of U. S. Motor, 62-64 gravity gasoline, prime and water white kerosene at around 11¼, 14¾, 7 and 8 cents respectively. Virtually all of the big refiners are demanding 12 cents a gallon for U. S. Motor gasoline, although one factor is still quoting 11½ cents a gallon, but it is doubtful if there is much available at this figure.

Export demand for cased gasoline is a trifle better but prices have not been revised for some time.

Export Gasoline—Gulf Ports

In the Gulf section, one of the leading refiners booked two mixed cargoes for France and one for Spain, averaging 35,000 barrels each for January shipment. Prices were reported at around 14¼ cents for 62-64 gravity; 11⅛ to 11¼ cents for U. S. Motor and 6⅞ cents for prime and 7⅞ cents for water white kerosene. There have been reports current of bulk sales by Independents but confirmation and details have been lacking. The demand for gasoline is much better than anticipated. Domestic demand is waning. Cased U. S Motor is firm but unchanged. There has been an inquiry in the market for Australia for 50,000 cases of U. S. Motor and 64-66 gravity for delivery during January-February but this has not as yet materialized.

Domestic Gasoline—New York

Domestic demand for U. S. Motor gasoline is a trifle better and the refiners are demanding 13 cents a gallon, in tank cars delivered to the trade. Jobbers have been inquiring in a more spirited way but are reluctant to pay prevailing prices. The local price in steel barrels to garages is held at 17 cents a gallon, but there are persistent rumors current that there will be an advance soon. Consumption appears to be unusually large for this time of the year.

Export Kerosene—New York

A large Scandinavian buyer was inquiring for a cargo of 20,000 barrels of prime and water white kerosene along with U. S. Motor gasoline, but this has failed to materialize. There is fair business in barreled kerosene to southern France and the Mediterranean ports. Spot prime white is held at 7¼ cents a gallon, while water white is quoted at 8½ cents a gallon at the refineries. South American buyers have been operating along more conservative lines, but prices are well maintained. There is a steady, routine movement to the west coast of Africa, but this appears mainly on consignment.

Export Kerosene—Gulf Ports

In the Gulf section, water white ranges from 7¾ to 8 cents, while prime is quoted from 6¾ to 7 cents a gallon, in cargo lots. There have been numerous export inquiries for bulk kerosene, but the only sales noted were reported above. Refiners are confident of the outlook, owing to the influx of inquiries from virtually all of the leading European industrial centers which indicate that stocks abroad are not as heavy as previously believed. Cased prime is firmer at $1.65 while water white is firm at $1.75 a case, cargo lots. There are reports current of an impending advance in these prices.

Domestic Kerosene—New York

Demand from jobbers and retailers is much improved and the recent advance in water white to 8½ cents a gallon, refinery, brought forth a fairly large number of orders from small consumers. The price in tank cars delivered to the trade is 9½ cents a gallon while the tank wagon price is firmly established at 15 cents a gallon.

Wax—New York

The entire price list for paraffin waxes failed to show any change. European demand is practically at a standstill with small exporters claiming that the big companies are selling very cheaply abroad while holding prices up here. Domestic demand continues disappointing. Stocks are piling up and white crude scale is still quoted on a basis of 5½ cents a pound for 122-124 A.m.p. For fully refined 120-122 A.m.p. the asking price was 6⅛ cents a pound. Semi-refined was weak at 5¾ cents a pound for 122-124 A.m.p. Match 105-108 is quoted at 6 cents but there is little stirring in this grade.

Wax—Gulf Ports

In the Gulf section, the wax market was equally dull. Cables at fairly low prices have failed to bring any response and prices are easier on a basis of 5½ cents for white crude scale 124-126 A.m.p. Fully refined 125-127 A.m.p. was quoted at 6 cents; 128-130 A m.p. at 6⅛ cents; 133-135 A.m.p. at 6½ cents and 135-137 A.m.p. at 7 cents a pound. Domestic demand in the New Orleans section is also lagging.

Bunker Oil—New York

Bunker oil is firmer, although the price list is unchanged at $1.65 a barrel at local refineries and $1.71½ a barrel f.a.s. New York harbor. No export buying was reported during the entire week, but there was a spirited request from domestic consumers. All kinds of fuel oils are strengthening. Diesel oil is held at $1.99½ a barrel, refinery.

Bunker Oil—Gulf Ports

In cargo lots at New Orleans, grade C bunker oil for export was available at $1.40 a barrel, but for bunkering purposes the price ranges from $1.50 to $1.60 a barrel, according to the point of loading and the seller. At Tampico, grade C, including taxes, is held at $1.40 a barrel, while heavy Panuco crude oil is quoted at $1.18 to $1.20 a barrel, taxes to be added.

Lubricating Oils

Pennsylvania cylinder stocks were

firmer. Offerings were smaller and the inside price for Pennsylvania 600 steam refined, in barrels New York was 25 cents a gallon. There was virtually nothing available below this figure. The previous week's price was 24 cents a gallon. Neutral oils are in growing demand at unchanged prices.

The Gulf coastal market for lubricating oils has been a shade easier the past few days. Export buying is very disappointing but there is a slightly better demand from small domestic distributors. Zero cold test oils are offered a little more freely. Refiners appear more inclined to make concessions.

Medicinal oils ruled quiet under a routine demand. No export buying of consequence was heard of. Petrolatums are a shade firmer, and offerings are slightly more restricted.

European Oil Firm Seeks American Cylinder Oils

LONDON, Dec. 14.—L. C. Wallach, managing director of Sterns, Ltd., oil marketers, with headquarters at Royal London House, Finsbury Square, London, is expected to visit New York during January to arrange sole agencies for Pennsylvania and western steam refined cylinder stocks, bright stocks and filtered stocks.

Lord Attlumney, chairman of the board of directors, is visiting in this country at the present time.

Sterns, Ltd., is a well-known and old-established firm, having been founded in 1888. It has distributing facilities in Great Britain, the British Empire, throughout Europe, South America and the Far East.

The firm has a large staff of salesmen and agents and maintains branch offices in many of the principal countries.

Refiners who are interested in discussing possible arrangements with Mr. Wallach, may communicate with the London offices.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles)

	Dec. 14	Dec. 7
Gasoline, U. S. Motor—54°—56°	7½- 9	7½- 9
Gasoline—U. S. Motor blends and special cuts	8 - 9½	8 - 9½
Gas Oil, 24°—30°B. per bbl	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	.05 -05½	05 -05½
Cased Goods		
Gasoline, U. S. Motor	$2.25	$2.25
Kerosene, W. W. 40°—42° B per case, flash test 125-150	$1.40-1.50	$1.40-1.50

New York Export Market

Prices below are an index to the export markets as of the dates given In many cases they are actual sales prices So many factors enter into the price in export transactions that an actual market price governing the bulk of transactions cannot be given

GASOLINE	Dec. 14	Dec. 7
U. S. Motor, Bulk, Ref	12	-12
KEROSENE		
43-150 W. W. Bulk Ref	08¼	-08¼
GAS OIL		
36-40 Bulk Refinery	05½ -06¼	05½ -06¼
28-34 Bulk Ref	05¼-06¼	05¼-06¼
BUNKER OIL		
Grade C, Ref....Bulk	1.65	-1 65
Diesel Oil Ref....Bulk	1.99½	-1.99½
LUBRICATING OILS		

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (bbls.) 1 inch Immersion Test		
Penna Filtered D 600	32	-32
Penna. Filtered F 600	29	-29
Unfiltered 600 s. r	25	23½-24
Unfiltered 650 s. r	30½	-30½
600 flash s. r	33	-33
Penna. 630 Flash	42	-42
RED PARAFFIN (bbls.)		
300 vis. at 100°F....No. 3.	21½	-21½
250 vis. at 100°F....No 3	20½	-20½
High Viscosity Paraffin No. 5.	26	-26
885 s.g.pale 100 vis. at 100°F.	15	-15
Neutral Oils (bbls.)		
200 vis. at 70° F. Pale...No 3	-31½	-31½
180 Pale 70 .....No 3	-29½	-29½
150 Pale 70.....No. 3	-24¾	-24¾
BLACK OIL (bbls.)		
25-30 cold test	14 -15	14 -15
15 cold test	15 -15½	15 -15½

MEDICINAL OILS (Cooperage Basis) (Penna. Stocks)	Dec. 14	Dec. 7
Domestic.875-.885s.g.drums	1.00-1.08	1.00-1.08
Domestic 865-.870s.g.drums	.75- 80	.75- .80
Russian.885-.890s.g.325-330 vis. drums	1.20-1.25	1.20-1.25
WAXES (Penna Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p	-05¾	-05½
124-126 A. m.p	-05¾	-05¾
MATCH		
105-108 A. m. p	-00	-00
FULLY REFINED		
120-122 A m p	06¾	-06¾
123 125 A m p Philadelphia	06¼	-06¼
125-127 A m p	06¼	-06¼
128 130 A m p	06¾	-06¾
130-132 A m p	06¾	-06¾
133-135 A m p	06¾	-06¾
135-137 A m p	-07¼	-07¼
SEMI REFINED		
122-124 A m p	-05¾	05¾
YELLOW CRUDE SCALE		
124-126 A. m. p	05¾	-05¾
PETROLATUMS (Penna. Stocks)		
Dark Green	02¾	02¾
Veterinary	03¼	03 ½
Light Amber	03 ¾	03 ¾
Dark Amber	03 ¾	03 ¾
Cream	04 ¾	04 ¾
Lily White	09 ½	09 ½
Snow White	10¾-11	10¾-11

N. Y. Export Quotations

Illuminating Oils
Standard Oil of New Jersey

	Dec. 14	Dec. 7
Bulk, gal., Bayonne		
Barrels, gal., Bayonne, cargo		
Cases, gal., Bayonne	17.90	17 90

Prices for water white oil (150 test) are ½ cent higher than those for standard white.

Gasoline-Naphtha
(Cents per Gallon)

U. S. Motor, dead bulk		
U S Motor, cases	27.15	27.15
Export Naphtha bulk		
*62-63 deg. bulk		
66-68 deg. bulk		

*Grade changed from 64-66 to 62-63 Jan. 9.

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk		
58-59 deg. cases	27.15	27.15
Export grade, U. S. Motor Specifications bulk		
68-72 deg. bulk		

	Bulk Barrels	Cases
Standard white 110		17 90
Water white 150		19.40

The Texas Company

Gasoline, cases	27.15	27.15

Kerosene	Bulk Barrels	Cases
Standard White		17.90
Prime White		18.40
Water White		19.40

Gulf Export Market

Gasoline

	Dec. 14	Dec. 7
U. S. Motor, Cargo	.11½	-.11½
60-62 400 e. p Bulk	.14¼	.14
64-66, 385 e p Bulk	15¼-.15½	15¼- 15½
U S Motor, Cases (cargo lots)	2.45	2 45
64-66, Cases (cargo lots)	2.70	2.70
KEROSENE		
Water White, bulk	07½08	-.07½
Prime White, bulk	06½07	-.06½
Water White, cases (cargo lots)	1.75	1 75
Prime White, cases (cargo lots)	1.65	1.65
GAS AND BUNKER OIL		
26-28, gravity, bulk Transp	04¼	-04¼
32 plus, bulk, Dark	04½	-04½
Grade C, Bunker oil	1 50-1.60	1.50-1.60
Cargoes	1.40	
MEXICAN CRUDE AND BUNKER OILS		
Heavy, f.o.b. Tampico, Taxes to be added	1.18-1.20	-1.20
Mexican Grade C, Bunker oil F. O. B. Tampico Taxes paid	1.40	1.45
Mexican C, Bunker oil New Orleans	1.50	1.50

Lubricating Oils
SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

	Dec. 14	Dec. 7
100 Vis. No. 2 Unfiltered Pale	07	07
150 Vis. No. 2½ Unfiltered Pale	09	09
200 Vis. No. 3 Unfiltered Pale	11	11
300 Vis. No 3 Unfiltered Pale	12½	12½
500 Vis No. 3½ Unfiltered Pale	14	14½
200 Vis. No. 5½ Red Oil	09	09½
300 Vis. No. 5½ Red Oil	10½	11
500 Vis. No. 6 Red Oil	13½	13½
800 Vis. No. 6 Red Oil	18½	18½

Competitor Ends Oil "Gifts" to Motorists

MARION, O., Dec. 14—The Standard Oil Co. of Ohio's practice of giving away a free gallon of oil with every five gallons of gasoline purchased on certain days, was discontinued at Bowling Green, Ohio, according to independent companies there, when Bishop Bros., who operate a service station across the street, announced to the public that they would do the same thing. On the two Saturdays that Bishop Bros. gave away a gallon of oil, announcing this proposition to the motorists by an advertising and sales campaign and by "ballyhoo-ing" on the street, the company reported business at their station good. This was done merely to meet all competition from the Standard, but the proposition has now been discontinued by both companies.

Bishop Bros. recently completed a large and modern service station and garage, equipped with up-to-date air pumps, oil dispensers, and rest rooms. The front of the building is of pressed brick trimmed in cut stone. The office and sales room floors are of hardwood with woodwork to match.

A large electric sign in front flashes "Gas" during the night and hundreds of nitrogen lamps furnish brilliant illumination.

British Importations

During the week ended, November 16 there were 29,514,493 gallons of petroleum imported into the United Kingdom. Larger receipts were:

Consignee	Imperial Gallons	Product	Port of Origin
London—			
Anglo-Mex....	2,791,880	Fuel Oil	Tampico
Anglo-Mex....	112,740	Fuel Oil	Tampico
Anglo-Mex....	951,400	Fuel Oil	Tampico
Lubricating and Fuel Oils....	1,266,250	Gas Oil	Phila.
Brit-Mex.....	492,000	Fuel Oil	Novoross'k
Shell.....	700,000	Kerosene	Phila.
Shell.....	1,358,229	Crude	Curacao
Shell.....	1,087,115	Crude	Curacao
Liverpool—			
Anglo-Mex....	80,000	Fuel Oil	Tampico
Brit-Mex.....	147,110	Fuel Oil	B. Rouge
Shell-Mex.....	242,169	Fuel Oil	Singapore
Bristol—			
Brit-Mex.....	1,120,000	Kerosene	Trinidad
Shell.....	701,000	Gasoline	S. Pedro
Shell.....	812,798	Fuel Oil	Curacao
Barrow—			
Anglo-Amer...	653,010	Benzine	Port Arthur
Hull—			
Anglo-Amer...	793,810	Gas Oil	Atreco
Manchester—			
Shell-Mex.....	1,169,936	Benzine	B. Pappan
Shell-Mex.....	110,627	Gasoline	B. Pappan
Anglo-Mex....	1,530,000	Gasoline	S. Pedro
Anglo-Amer...	100,728	Kerosene	New York
Anglo-Amer...	1,075,918	Lubes	New York
Southampton—			
Anglo-Amer...	1,356,010	Gas Oil	Port Arthur
Brit-Mex.....	2,185,540	Crude	Aruba Isles
Brit-Mex.....	2,238,664	Crude	Aruba Isles
Anglo-Amer...	1,180,000	Fuel Oil	Tuxpen
Swansea—			
Natl. Ref.....	2,438,000	Crude	Abadan
Grangemouth—			
Scottish Oils...	2,248,000	Crude	Abadan

Crude Oil Prices All Fields

ALL PRICES EFFECTIVE. *Dec. 14*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.65
Bradford District Oil in National Transit Lines (Bradford District)	3.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.50
Penna. Grade Oil in Buckeye Pipe Lines (Ohio)	3.30
Gaines, Tioga Co. (Pa.)	$2.95
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.10
Corning Grade in Buckeye Pipe Lines (Ohio)	1.95
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.20
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.35
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.15

*Somerset oil run prior to Oct. 1, 1923 takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.00	Indiana	$1.78	Plymouth	$1.40
Lima	1.98	Princeton	1.87	*Canadian Petrolia	2.38
		Illinois	1.87	*Posted by Imperial Oil, Ltd.	

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas.)

*28-28.9	$1.15	37-37.9	$1.87
29-29.9	1.23	38-38.9	1.95
30-30.9	1.31	39-39.9	2.03
31-31.9	1.39	40-40.9	2.11
32-32.9	1.47	41-41.9	2.19
33-33.9	1.55	42-42.9	2.27
34-34.9	1.63	43-43.9	2.35
35-35.9	1.71	44 and above	2.43
36-36.9	1.79		

*Effective Nov. 1, Prairie announced to its present customers that it would deduct 8c per barrel for every degree below 28 gravity on Mid-Continent and North Texas crude It will pay $1.07 for 27-27.9, 99c for 26-26.9, etc. New quotations are not added to present schedule inasmuch as Prairie is not in the market for new connections on this low gravity crude.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes, all in Texas.)

Effective Nov. 21, Humble posted same gravity and price schedule as that maintained by Prairie, excepting that Humble is paying $1.07 for all oil below 28 gravity.

Magnolia Petroleum Co. Prices
In Oklahoma, Kansas and North Texas

Effective Nov. 23, Magnolia posted same gravity and price schedule as Humble, in all fields where it purchases on a gravity basis.

Effective Nov. 23, Corsicana heavy was advanced to $1.05.

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$1.65	Haynesville, below 33	$1.55	Smackover, 24-24.9	$1.15
do 32-34.9	1.75	do 33 and above	1.65	do 25-25.9	1.20
do 35-37.9	1.85	El Dorado, below 33	1.55	do 26-26.9	1.25
do 38 and above	1.95	do 33 and above	1.65	do 27 and above	1.30
Homer, below 31	1.40	Bull Bayou, 32-34.9	1.45	De Soto	1.80
do 31-32.9	1.55	do 35-37.9	1.60	Crichton	1.60
do 33-34.9	1.65	do 38 and above	1.75	Bellevue	1.65
do 35 and above	1.75	Smackover, below 24	.85	Cotton Valley	1.10

*Same prices maintained by The Texas Co. and Gulf Production Co. The Texas Co. buys in Caddo, Bull Bayou, De Soto, Crichton and Smackover fields

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.40	Below 26	$1.20

SMACKOVER, ARKANSAS
Prices of Louisiana Oil Refining Corp.

Below 24	$0.85	25-25.9	$1.25	27 and above	$1.55
24-24.9	1.15	26-26.9	1.30		

SMACKOVER, ARKANSAS
Prices of Atlantic Oil Producing Co. and Shreveport-Eldorado Pipe Line Co.

Below 24	$0.90	25-25.9	$1.25	27 and above	$1.55
24-24.9	1.15	26-26.9	1.30		

GULF COASTAL FIELDS
(Posted by Humble Oil & Refining Co., The Texas Co., Gulf Production Co., Sun Oil Co. and Sinclair Crude Oil Purchasing Co.)

Grades A	$1.50	Grades B	$1.25

Goose Creek, Hull, Orange and Pierce Junction are the only Gulf Coastal fields that have A and B grade classifications. All other fields are classified as A grades only

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.23	36-36.9	$1.79	Rock Creek	$1.75
30-30.9	1.31	37 and above	1.87	†Osage	1.90
31-31.9	1.39	Elk Basin	1.90	†Cat Creek, Mont.	1.90
32-32.9	1.47	Grass Creek light	1.90	Sunburst Mont.	1.35
33-33.9	1.55	Big Muddy	1.75	†Hogback, N. Mex.	1.95
34-34.9	1.63	Lance Creek	1.90	Artesia, N. Mex.	1.45
35-35.9	1.71				

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin. The Texas Co. buys Salt Creek crude.

CALIFORNIA
Prices of Standard Oil Co. of California

Standard Oil Co. of California on Sept. 22 reduced California crude from 10 to 35 cents per barrel and posted 19 new price classifications in the various fields. Instead of paying the same price for the same gravity of oil in all fields regardless of the value of the oil, as it previously has done, the Standard put into effect a new schedule which provides a different schedule of prices for each field and takes into account the varying values of oils of the same gravity in the different fields.

On Oct. 27, it further reduced heavy oils in amounts ranging up to 15 cents. New base price for heavy oils in the San Joaquin Valley is 75 cents, in Southern California fields, 85 cents, and in the Rosecrans-Dominguez, Santa Maria and Ventura county fields, it is $1 per barrel for 14 to 14.9 gravity. Light oils remain unchanged.

The new complete schedule of prices in California can be obtained from the editorial department of National Petroleum News on application.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Dec. 14	Dec. 7
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums .....cwt.	- 1.70	- 1.70
Sal Soda wks .....cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime .....cwt. works	-2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point .....per ton	-10.00	-10.50

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	12.9	12.8
February	12.9	12.8
Tanks, spot	12.1	12
Boiled carloads spot.....lb.	13	13
*Soya Bean spot, Bbls....lb.	13½	13½
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04⅝	-.04⅝
*Horse.....lb.	-.10	-.10
Oleic Acid—		
Dist. Bbls.....lb.	.11¼-.11¾	.11¼-.11¾
Saponified Bbls.....lb.	.11¼-.11¾	.11¼-.11¾
Castor Oil—		
No. 3 Carlots, Bbls.....	-.15	-.15
No. 1 Carlots, Bbls.....	-.15½	-.15½
Lard Oils—		
Prime		
Winter Strained. to 1½ffa.40/45c.t.lb	17⅛	.18½
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.14¾	15¾
Extra .... 4 to 5 ffa.40/45c.t.lb.	.14¼	14¼
Extra No. 1 7 to 10 ffa.40/50c.t.lb.	.13¾	14
No. 1.....15 to 18 ffa.40/45c.t.lb.	.13¼	13¾
No. 2.....22 to 23 ffa.40/45c.t.lb.	13	.13¼
Prime Edible Tallow under 1¾ffa. 40/45c.t.N.Y.....	lb. -.11¾	-.11½
Tallow acidless.....lb.	-.13¾	-.13½
Lard Stearine.....lb.	-.19	-.19
Oleo Stearine.....lb.	-.14	-.14½
Neatsfoot Oil—		
Pure.....bbls.-lb.	.15¼	.15¼
Extra.....do lb.	.13¾	.14
No. 1.....bbls.-lb.	.13¼	.13¾
Cold pressed.....lb.	.18¼	.18¼
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.70	-.70
White.....gal.	-.73	-.73
Yellow bleached.....gal.	-.75	-.75
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal .....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	1.03	1.04
Turpentine†.....gal.	.97	.98
Rosin, B. N. Y.....Bbl.	14 50	14 52
Rosin, F. N. Y.....Bbl.	14.50	14 52
Rosin, B† .....Bbl.	13 00	13 00
Rosin, F† .....Bbl.	13 00	13.00
Rosin Oil 1st run .....gal.	.82	.82
Rosin Oil 2nd run.....gal.	.87	.87
Pine Tar—		
Kiln Burnt.....Bbl.	15.50	15.50
Retort.....Bbl.	15.50	15.50
†Savannah, Ga. market. *Nominal.		
Alcohol—		
Formula 6		
Bbls.....gal.	-59½	59½
Drums.....gal.	-52½	52½

Caustic Soda Steady, Sulfuric Acid Firm

By Special Correspondent

NEW YORK, Dec. 14.—Following is a review of the markets for oils and supplies used in compounding and refining;

Alcohol demand much lighter. Resale offerings of denatured alcohol heavy. Prices show easier tendency.

Animal Oils easier. Lard oil demand below expectations. Neatsfoot oil also weak, and dull. Domestic degras quiet. Horse oil marking time. Tallow oil flat. More interest in oleo stearine. Lard stearine quiet.

Fish Oils quiet. Crude menhaden oil now 52½ to 55 cents gallon, tanks factory. Light pressed dull unchanged. More interest in white and yellow bleached. Whale oil demand improving. Sperm oil quiet but firm. More interest in herring oil.

Linseed Oil quiet unchanged. Spot-April offered 12.9 cents pound, barrels carlots. Consumers holding off. Flaxseed quiet. Paint makers showing little interest. Linoleum makers taking fair quantities on contracts. Soya bean oil marking time.

Castor Oil demand slightly better but prices still weak, as buyers hold off. Stocks slightly larger.

Soda Ash less active. Export and domestic buyers operating more cautiously. Prices slightly softer.

Caustic Soda marking time. Domestic demand less spirited but prices steady under good contract movement.

Sal Soda demand lagging. Consuming demands well covered. Fair inquiry for 1926 deliveries but orders scarce. Prices unchanged.

Sulfuric Acid firm, but unchanged. Sulfur offerings small, consequently acid is strong.

Naval Stores steady. No violent price fluctuations. Stocks about balance demand. More interest in future offerings. Receipts at Southern points small. Rosins in growing demand. Rosin oils marking time. Tar and pitch quiet.

The Benzol Market

By Special Correspondent

NEW YORK, Dec. 14.—Production of coke is much heavier and consequently the benzol output has also shown a marked improvement of late. While distributors say they are in a position to take on new orders for motor benzol, they claim there is little or no chance of a reduction in prices for some time to come.

Spot motor benzol in tank cars at the ovens is still held at 23 cents a gallon. Export inquiries are numerous but domestic marketers claim that they can easily dispose of their supplies over here and are not inclined to ship abroad at present.

Completes New Buildings

KARNS CITY, PA.—Pennsylvania Refining Co. recently completed the installation of another 200 H.P. boiler and stack, which is being used to operate a 150 H. P. steam engine and generator to produce its own current.

The company has also completed a concrete block building, 50 by 250 feet, which will be used for a tank room for the storage of Sharples process motor oils. A tile building has also been completed, containing pump room, pump house, repair shop with a compartment for locker room and showers for the workmen.

Stocks of California Gasoline Pile Up

LOS ANGELES, Dec. 14.—The domestic gasoline market in southern California has been holding up well on account of continued warm and sunny weather. Throughout the rest of Pacific slope territory weather has affected consumption. Stocks of gasoline continue to pile up and no noticeable reduction in production has been felt although many smaller refining plants have shut down.

The Julian Petroleum Corp., the operations of which have been confined to southern California, recently entered the San Francisco retail market with gasoline.

Sales of fuel oil are increasing but stocks continue to remain high and production is increasing. Prospects of future demands for fuel oil from the East are encouraging.

With the exception of casinghead gasoline, all oils in the California market are selling at about the normal rate in quantity but because production is considerably in excess of demand the entire market is weak.

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Dec. 14	Dec. 7
U. S. Motor Gasoline, Tank Cars Delivered.....	-13	-13
U. S. Motor Gasoline, Tank Cars Bayonne	-12	-12
Kerosene, 43-150 W. W. Tank, Cars Del'd	-09½	- 09¾
Grade C Bunker f.o.b. N. Y ...	1 65	1 65
Diesel Oil f.o.b Refinery	1 99½	1 99½
Gas Oil, 36-40, Bulk Refinery	05½-06½	05½-06½
Gas Oil, 28-34 Bulk, Refinery	05¼-06¼	05¼ 06¼

Makers Oppose Tank Wagon Price Base for Natural Gasoline Contracts

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, Dec. 14

REFINERS and manufacturers of natural gasoline are engaged in spirited maneuvering at present in preparation for the signing of contracts for 1926. While some contracts have been signed within the past few weeks a larger number are now in process of negotiation.

As in the case of refinery gasoline, tank wagon contracts appear unobtainable from manufacturers of natural gasoline. In 1924 a large part of the natural gasoline which moved under contract was based on some particular tank wagon schedule. The Newark, N. J., tank wagon was a popular basis for contract.

At the end of 1924 manufacturers were much dissatisfied with that type of contract and some of the largest agreements during 1925 were based on the spot market at date of shipment or the average spot prices printed in petroleum publications. One contract on that basis called for delivery of around 5000 cars during the year.

Sell Under Spot Market

Some contracts were based on the tank wagon price again this year to the disgust of the manufacturers who have been doing the selling. Some of the contracts were on the basis of 85 to 90 per cent of the Newark, N. J., tank wagon. At the peak of natural gasoline prices this year manufacturers that were selling on a tank wagon basis were netting not much more than 50 per cent of the spot prices at which gasoline was moving on sales from day to day.

In view of their experiences with tank wagon contracts this past year manufacturers are not inclined to enter into any agreement on that basis for 1926. Some take the position that they would rather sell their output from day to day and have no contracts than to base their sales on a tank wagon market which may be affected adversely by California gasoline or other factors which might tend to keep it low.

A meeting ground for refiners and manufacturers of natural gasoline is being found in many instances on a basis of the price of U. S. Motor gasoline in Group 3 on date of shipment. Contracts are being written on the basis of some flat differential over U. S. Motor gasoline.

One manufacturer has made some contracts based on the market for natural gasoline on the date of shipment with a provision that the price shall never go more than 2 cents per gallon over the spot market for U. S. Motor gasoline. This contract has a provision also that the price of natural gasoline shall never go below 8 cents per gallon at point of origin.

There is such a feeling of optimism among manufacturers of natural gasoline regarding the outlook for 1926 markets that some doubt the wisdom of making a contract such as the foregoing. They believe that the 8-cent minimum will not be a real factor in the life of the contract but that the 2-cent maximm margin over U. S. Motor will limit the peak prices which might be obtained on a straight market date of shipment contract. They observe that at times during 1925, natural gasolines sold in the open market at as high as 4 cents per gallon over 58-60 U. S. Motor.

Minimum Guarantees

Some take the view that the 8-cent minimum figure guarantees that manufacturer a price which will enable him to obtain the cost of manufacturing his product and that he can make his plans for the year with a feeling of absolute security. They look on the 2-cent maximum over U. S. Motor gasoline as a protection for the consumer on the other end of the line.

There has been a good deal of discussion recently on contracts for Grade A for 1926 at a price of 1½ cents more than U. S. Motor gasoline. These would have no limiting factors in either direction. Some contracts have been written at between 1 and 1½ cents more than U. S. Motor. One big buyer of natural gasoline is understood to be trying to obtain his requirements of natural gasoline at exactly the market price of refinery gasoline. As far as can be learned no manufacturer is willing to contract on that basis.

One manufacturer of natural gasoline returned recently from London where he made a study of gasoline conditions in the United Kingdom. He came back with the news that British refiners are somewhat disturbed about their inability to produce natural gasoline in Persian fields and a gradual decline in the volatility of gasoline distilled from Persian crude. This manufacturer obtained an idea from his discussions abroad that British refiners might even undertake to ship natural gasoline from the United States in tank steamers during 1926.

This manufacturer had not much more than expressed an opinion on the subject of his investigations until it became apparent that the British are actually making preparations to get a large quantity of material during 1926.

A buying agent for the New Orleans Refining Co. has made a careful canvass of the situation during the last two weeks and has placed several large contracts for material to be delivered for the account of the Asiatic Petroleum Co., another member of the Royal Dutch-Shell group.

The New Orleans Refining Co. has not been a consistant buyer of natural gasoline in the past. It has come into the market spasmodically. Among the trade here it is estimated generally that New Orleans purchases for 1925 have not exceeded 10,000,000 gallons.

A careful check of this area leads to the belief that New Orleans Refining Co. has contracted for the delivery of close to 700 cars of natural gasoline per month or 8400 cars during 1926. That figure is more than seven times as much as the same company is estimated to have bought during the past year.

It was recently reported that Phillips Petroleum Co. of Bartlesville alone had agreed to ship 65,000,000 gallons of gasoline to the New Orleans company in 1926. This figure could not be confirmed and is believed to be excessive. At least three large manufacturers have participated in the New Orleans buying for next year and it is probable that the figure of 65,000,000 gallons is not far from being the total amount which has been obligated by all three of the sellers.

The New Orleans Refining Co. is expected to blend the natural gasoline with tops from Venezuelan and other crude at Good Hope and load the material out in tankers to be finished as motor fuel in England.

Others Active

A number of other Gulf coastal refiners of importance are negotiating for 1926 contracts. The Standard Oil Co. of Louisiana is becoming a larger buyer of natural gasoline than it has been for several years. Humble Oil & Refining Co. and the Gulf Refining Co. have been big buyers during the last year and are expected to contract for large quantities in 1926.

In the east the Standard Oil Co. of New Jersey has been an important buyer of natural gasoline in the past, basing its purchases largely on the tank wagon market. Most of the New Jersey contracts do not expire until after the first of the year and there is a good deal of speculation as to whether the company will agree to buy on U. S. Motor or market date of shipment next year.

The New Jersey company has been probably the largest buyer of natural gasoline in the Mid-Continent. Manu-

New York Bonds

Week Ended Dec. 11

	High	Low	Last	Ch'ge
Amer. Rep. Cor. Deb 6s	99	98½	99	— ½
Associated Oil gold 6s	102⅝	102⅝	102⅝	+ ⅛
Atlantic Refg. deb 5s	99⅝	99¼	99¼	— ¾
Barnsdall Corp. 8s	105¾	105	105¾	+ ½
Calif Petrol. sf 6½s	104	103½	104	+ ¼
Empire Gas & F 7½s	103	101⅜	103	+ ¾
Humble Oil & R 5½s	101¾	101⅜	101¾	+ ⅜
Mid-Cont Pet 6½s	102	101½	101⅜	— ⅛
Pan-Amer. P. & T. 7s	105½	105¼	105¼	— ¼
Pan-Amer P. & T. 6s	113¼	110¾	110¾	—1
Pierce Oil deb 8s	105⅞	104	105⅞	+1¾
Prod. & Refurs. 8s with w.i.	109	109	109	0
Sinclair con oil con 7s	94⅛	92½	92½	—1½
Sinclair con oil con 6½s	87½	87	87⅛	— ⅜
Sinclair con oil 6s	107¼	106	106½	0
Sinclair Crude Oil 6s	100⅝	100⅜	100½	— ⅛
Sinclair Pipe Line sf 5s	87¾	87⅛	87½	+ ¼
Skelly Oil 6½s	125¾	122¼	125	— ½
Union Oil of Calif 6s-A	104½	103⅝	103⅝	— ⅜
Union Oil of Calif 5s-B	100⅞	100⅞	100⅞	+ ⅜
Union Oil of Calif 5s-C	96	95⅜	96	+1

New York Curb Bonds

Week Ended Dec. 11

	High	Low	Last	Ch'ge
Atlantic Gulf & w. i. 5s	74⅝	74	74	0
Cities Service 6s	91⅛	90¾	91¼	+ ¼
Cities Serv. 7s "C"	126⅛	126⅛	126⅛	0
Cities Serv. 7s "D"	101⅛	101⅛	101⅛	— ⅛
Cities Serv. 8s "E"	111⅛	111⅛	111⅛	0
General Pet 6s	101⅜	101⅜	101⅜	— ⅛
General Pet. 5s	94¾	94¾	94¾	0
Gulf Oil 5s	99⅞	99⅝	99⅝	0
Gulf Oil 5½s '26	101⅝	101⅝	101⅝	0
Gulf Oil 5½s '27	101¼	101¼	101¼	+ ⅛
Phillips Pet 7½s w w	104⅜	104⅜	104⅜	+ ⅜
Pure Oil 6½s	102⅛	102¼	102⅜	+ ⅛
S O N Y 6½s	106¾	106¼	106¾	+ ¼
Sun Oil 5½s	98	97⅝	98	0
Tidal Osage 7s	103¼	103¼	103¼	0
Trans Cont Oil 7s	97	96	97	+1
Vacuum Oil 7s	105	104¾	104¾	0
Valvoline 7s	103½	103½	103½	— ⅛

New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions week ended Dec. 11 Sales	First	High	Low	Last	Ch'ge
.....	.....	11½	2¼	....	Amer. Maracaibo	5900	6¾	7⅛	6⅜	7⅛	+ ⅜
7	4	8¾	5	$10	Arkansas Nat Gas.	800	6½	6¾	6½	6¾	0
36½	32	45⅛	38	25	British-American						
6¼	2¾	7⅛	2¾	25c	Carib. Syndicate	7100	6¾	6⅝	6¼	6½	+ ⅛
.....	.....	43	35	$20	Cities Service	7300	38⅞	38⅞	38¼	38½	— ⅜
88⅛	67¾	85¼	80¾	100	do pfd.	1300	85	*85⅛	84¾	85	0
7¾	6⅛	8	7¾	10	do pfd. B	900	7½	7½	7½	7½	0
19	15¾	21¾	17½	10	do bankers' sh	300	19¼	19¼	19¼	19¼	0
1¼	.25	2¼	.60	N.P.	Colombia Syndicate	16,600	1⅞	1⅞	1¾	1⅞	0
10¼	2¾	14¾	8¼	N.P.	Creole Syndicate	24,400	11¾	12¾	11	12⅜	+1¼
.....	.....	12¾	6	N P	Crown Central	17,000	6¾	6¾	6	6	— ¼
8	1½	7	2	N.P.	Derby Oil & Ref	900	2¼	2¾	†2	2	— ½
34¼	17⅝	27	14⅞	N.P.	do pfd.						
.....	.....	5½	1⅛	N.P.	Gibson Oil	43,900	4¾	5	4½	4⅝	+ ⅛
5¾	1¾	3¾	1⅜	N.P.	Gilliland v.t.c.	1,300	1½	1½	1⅜	1⅜	— ⅛
67¾	56	87	65½	$25	Gulf Oil Corp	6,500	85⅞	85⅞	84	84½	—1⅜
7	1¾	5¾	2¾	N.P.	Kirby Petroleum	2,900	3½	3¾	3¾	3½	+ ¼
6¾	2¾	9⅜	4¼	N.P.	Lago Petroleum	79,600	7⅜	*9⅞	7⅜	9½	+2⅛
.....	.....	25⅞	18	N.P.	Lion Oil Refining	4,300	25⅛	25½	24½	24¾	— ⅜
4⅜	4	4½	1¾	N.P.	Marland of Mexico	400	3¾	3¾	3	3¾	+ ⅜
1¾	.50	5¾	.56	$10	Mexican-Panuco	8,100	4	4⅜	4	4	0
1⅝	.97	2	1	1	Mountain & Gulf	200	1½	1½	1½	1½	— ⅛
30¾	16	26½	18¾	10	Mountain Prod	32,400	25¼	*26¼	25¼	26	+ ¾
6¾	3½	6¾	3¼	5	New Bradford Oil	8,700	6¾	*6¾	6½	6¾	— ⅛
44	17	8¾	4¾	10	New England Fuel	600	4¾	5	4¾	5	+ ½
.....	.....	19¾	6½	1	New Mex. & Aris	7,300	16⅜	16⅞	15⅜	15½	— ½
14	8¼	12½	8¾	25	New York Oil	500	10½	11	10½	11	0
.....	.....	37	23¾	N.P.	Pan-Amer. Western						
6	.70	2¼	.90	N.P	Peer Oil Corp	5,900	2	*2½	2	2½	+ ⅛
18¾	12¼	28¾	16	$10	Pennok Oil	600	23¾	23¾	22¾	22¾	— ¾
57¾	5¾	44½	16	25	Red Bank Oil						
.....	.....	33½	9	N.P.	Reiter-Foster	6,400	23¾	23¾	19¾	20¼	—2¾
5½	3	9½	3½	N.P.	Ryan Consolidated	3,600	5	6⅛	5	6⅛	+1⅛
10¾	6	9¾	6¾	$10	Salt Creek Cons	8,500	8¾	9¼	8¾	9¼	+ ⅜
27½	19¼	34¾	24	10	Salt Creek Prod	38,900	32¼	*34⅜	32¼	34¼	+ 2
3¾	1½	3¾	1	5	Savoy Oil	3,100	1	1¼	1	1¼	+ ¼
.....	.....	46½	33¾	N.P.	Sun Oil						
16¼	6¼	13¾	9	10	Tidal Osage	200	10⅜	10⅜	10⅜	10⅜	— ⅛
4¼	2¾	4¾	1¾	5	Venezuelan Pet	5,300	3¾	3¾	3¼	3½	0
....	..	81¼	22¾	N.P.	Wilcox O. & G. new	800	27½	27½	26¾	26¾	— ⅛
15¾	4¾	7	3¾	N.P.	Woodley Petroleum	300	5¼	5¼	5¼	5½	+ ⅛

Pittsburgh Stock Exchange

7	4	8¾	5¾	$10	Arkansas Nat. Gas.	1,897	6¾	6⅞	x6½	6½	— ¼
40⅛	35¾	73¾	69¾	N.P.	Columbia Gas	....	....	....	....	....	....
.....	.....	18	14¾	$10	Devonian Oil	328	16½	17	x16½	16½	0
.....	.....	112¾	105¾	$100	Duquesne Lt. 7s pfd	35	110½	110½	110½	110½	0
30	30	110½	90	25	Fayette County Gas	....	....	....	....	....	....
33½	26¾	45¾	32¼	25	Lone Star Gas	3,087	41½	43	41	42½	+1½
.....	.....	4¼	4¾	....	Do Rights	7,823	4	4¼	3¾	4	0
33¾	28½	37¼	31	25	Ohio Fuel Corp	2,565	35½	35⅞	35	35½	0
16½	11¾	16¾	12¾	1	Ohio Fuel Oil	....	....	....	....	....	....
28½	22¾	32¼	26	25	Oklahoma Nat. Gas	1,292	31¼	31¼	31	31	— ¼
9¾	6	8¾	5	5	Pittsburgh O. & G.	120	6	6	5¾	6	0
10½	6	9⅝	6¼	10	Salt Creek Cons	2,607	9	9¼	8¾	9	0
16½	8	13⅛	8¾	10	Tidal Osage	370	10¼	10⅜	10¼	10¼	0

Pittsburgh Curb Market

.....	.....	18¾	18¾	....	Central Ky. Gas	.....	.....	.....	.....	.....	.....
1	.20	2¾	.60	$5	Colombia Synd	.....	.....	.....	.....	.....	.....
.....	.....	15	13	N.P.	Devonian Oil	.....	.....	.....	.....	.....	.....
.70	.25	.60	.15	5	Duquesne Oil	1,200	.20	.20	.20	.20	.....
9½	5½	9	5½	10	Forest Oil	.....	.....	.....	.....	.....	.....
86¾	57	85	64	25	Gulf Oil Corp	.....	.....	.....	.....	.....	+1
23¾	21	.....	.....	N.P.	International Pet	.....	.....	.....	.....	.....	.....
.....	.....	12¾	8¾	N.P.	Leonard Oil & Dvlp	2,250	8¾	8¾	8	8¾	+ ¼
6	5	.....	.....	$10	Marshall Oil	.....	.....	.....	.....	.....	.....
.77	.35	.47	.26	10	Omar O. & G.	.....	.....	.....	.....	.....	.....
.....	.....	27½	25	....	Plymouth Oil	200	27½	27½	27½	27½	+2½
8	3¾	7	3	5	States Oil	.....	.....	.....	.....	.....	.....
.....	.....	4	1 11	$1	Texon Oil & Land	5,950	3½	3½	3⅜	3½	0
14	10	11	9	10	Tidal Osage	.....	.....	.....	.....	.....	.....

*New High †New Low xEx-Dividend

facturers would consider it a misfortune if the Standard should abandon its present large consumption and follow a policy similar to that of the Standard Oil Co. of Indiana, which has bought no natural gasoline in the Mid-Continent during the last three years.

In asking a premium over U. S. Motor for their product in 1926 manufacturers point out that the market this year has given them a premium consistently. For the first 11 months of 1925 U. S. Motor gasoline has averaged 10.7 cents per gallon in the open market while Grade A has brought an average price of 12.14 cents, Grade B 11.72 cents and Grade C 11.38 cents. Even Grade C has thus brought more than 1 cent per gallon over U. S. Motor.

Financial Notes

Tidal Osage Oil Co. reports for nine months ended September 30, 1925, net income of $430,097 after depreciation, depletion, taxes and canceled leases, equivalent after allowing for 7 per cent preferred dividend requirements to 63 cents a share (par $10) earned on outstanding 631,319 shares of common stock. This compares with $90,478 or 10 cents a share in same period of previous year.

* * *

Shareholders of Standard Oil Co. of New Jersey at special meeting approved the plan proposed by directors, providing for a new employe stock subscription plan to run for three years, starting 1926. Under the new plan the company still puts in 50 cents for each dollar subscribed by the employe; subscriptions are limitied to 10 per cent of salary instead of 20 per cent provided in the old five-year plan expiring at the end of 1925; employes who subscribed under the previous plan must retain at lease two-thirds of the stock received under it to participate in new subscription; directors are not permitted to be subscribers. The vote was 78.3 per cent for the plan.

* * *

FRANKLIN, PA.—Galena Signal Oil Co. declared regular quarterly dividends on preferred and new preferred stocks of $2, payable December 31 to stock of record December 10.

Cleveland Stock Market

	Par	Dec. 11 Bid	Asked	Last Sale
Canfield Oil Co.	$100	108½	.....	115
do pfd.	100	100	.....	100
Fred G Clark Co.	10	2½	.....	2¾
National Refin. Co.	25	41	42	42
do pfd.	100	.....	130	130
Paragon Refin. Co.	25	7¾	8¼	7¾
do pfd.	100	66	73	66

x-Ex dividend

Transactions In Oil Shares on New York Stock Exchange

1924 High	1924 Low	1925 High	1925 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Dec. 12 Sales	First	High	Low	Last	Chg'e
48	25	76	48	(sh)	200,000	N.P.	American Republics	.....	....	3,600	66½	75	66½	74¾	+8
84⅝	27½	44⅜	32	$	56,000,000	$25	Associated Oil	50cQ	Oct. 26, 25	27,800	44⅛	44⅜	43	43¾	+ ⅛
140⅜	78½	117½	95½		50,000,000	100	Atlantic Refining	.....	June 16, 24	1,300	109½	109½	107½	109	—1
118	108	117¾	113½		20,000,000	100	do pfd	$1¾Q	Nov. 2, 25	200	115¼	115¼	115	115	—1⅛
28½	14	30	18¾		18,428,350	25	Barnsdall Corp. A	.....	Apr. 30, 21	14,500	27⅛	27½	26⅝	27	0
17¼	10	25	16		8,718,275	25	do B	.....	Apr. 30, 21	1,400	24¾	24⅞	24	24	— ½
4¾	1	2¾	¾	(sh)	150,000	N.P.	Caddo Central O. & R	.....	.....	3,300	½	½	⅜	½	0
29¼	19½	32¾	28¾	$	80,549,925	$25	California Petroleum	50cQ	Dec. 1, 25	24,900	31⅞	32	31⅜	31⅝	+ ⅛
65¾	51⅜	66¾	42½		19,832,300	100	General Asphalt Co	.....	.....	93,200	61	70	61	68⅞	+6¾
100	71½	101¾	86½		7,416,000	100	do pfd	$1¼Q	Dec. 1, 25	5,500	101	109	101	109	+8⅜
45	38¾	59	42		29,194,650	25	General Petroleum	50cQ	Sept. 15, 25	103,700	53½	54⅜	51⅞	53	+2
82½	61	85	59		25,000,000	100	Houston Oil Co	.....	.....	1,300	71⅛	71⅞	70⅞	71	— ½
16¾	5¾	40½	13½	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 5, 25	16,900	33½	34	32	32½	— ⅝
7⅜	3¾	14½	5½	$	3,256,590	$10	Indian Refining Co	.....	Dec. 15, 20	11,700	13	13⅜	12⅜	12½	— ⅛
75	60	110	77		2,296,400	100	do pfd	.....	Dec. 15, 21	300	105¾	105¾	105	105	—5
1	¼	1½	¼		1,678,760	10	Kansas & Gulf Corp	.....	.....	500	½	½	½	½	— ⅛
.....	.....	23¾	13⅝	(sh)	1,078,166	N.P.	Louisiana Oil Refining	.....	.....	8,900	17¼	17½	16⅝	16⅝	— ⅝
37½	24⅝	35½	20⅜	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	4,200	25⅛	25¾	24⅞	25½	+ ⅛
42	29	60	32¾	(sh)	1,885,343	N.P.	Marland Oil Co	75cQ	Sept. 30, 25	95,900	59¾	59⅞	58	58⅜	—1½
190	190	250	225	$	45,942,800	$100	Mexican Petroleum Co	$3Q	Oct. 20, 25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	$100	do pfd	$2Q	Oct 20, 25	.....	.....	.....	.....	.....	.....
25¾	14½	22¾	9	(sh)	945,980	N.P.	Mexican Seaboard Oil	.....	Nov. 15 24	18,800	10⅞	10⅞	9	9⅞	—1⅛
40¼	22⅜	38	26	(sh)	1,357,800	N.P.	Mid-Continent Petroleum (Cosden)	.....	Aug. 1, 23	29,800	36⅞	36⅞	35½	35¾	—1¼
95	80	94½	83	$	6,718,000	$100	do pfd	$1¾Q	Dec. 1, 25	200	94	94	94	94	0
6¾	1	3½	⅝	$	26,013,700	10	Middle States Oil Corp	.....	July 1, 23	9,800	1⅝	1¼	1	1	— ¼
58¼	45	65¼	51⅝	(sh)	3,500,000	N.P.	Pacific Oil Co	$1.50S.A.	July 20 25	33,500	60¾	60⅞	59¾	59⅞	— ⅛
65	44¼	83⅞	59½	$	48,307,400	$50	Pan American P. & T	$1.50Q	Oct. 20, 25	9,600	75½	76⅝	74⅜	74⅜	— ⅛
64⅝	41¾	84½	60¾		90,476,200	50	do Class B	$1.50Q	Oct. 20, 25	118,600	78¼	79⅜	76	77	—1⅜
.....	.....	45	41¼	(sh)	400,000	N.P.	Pan American Western B	.....	.....	12,600	43½	45	42⅝	44¾	+1½
4¾	1¾	6¼	2¼	(sh)	198,770	N.P.	Panhandle P. & R	.....	.....	6,400	5⅜	5⅜	4¼	4½	— ¾
42½	29	60½	37	$	2,935,200	$100	do pfd	.....	July 2, 23	500	52¼	52¼	49	50	—5
42½	28½	47⅛	36¼	(sh)	1,925,152	N.P.	Phillips Petroleum	50cQ	Oct 1, 25	67,600	44¼	45⅜	44⅛	44⅜	— ⅛
4½	1½	3¾	1¼	$	29,622,925	$25	Pierce Oil Corp	.....	.....	4,500	1½	1½	1⅜	1½	— ⅛
36	20	40	22		15,000,000	100	do pfd	.....	Feb. 1, 22	200	24⅞	24⅞	24	24	— ½
5¾	4⅜	8¼	4⅝	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	8,100	5⅛	5⅛	4⅝	4¾	— ¼
43½	22¾	32⅝	12¾	$	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	3,100	15½	15½	14½	14½	—1
47½	42	47⅝	27		2,845,350	50	do pfd	.....	May 1, 25	300	31⅝	32¼	31⅜	32⅜	+ ¾
30¼	20	33¾	25¼		75,959,250	25	Pure Oil Co	37½cQ	Dec. 1, 25	145,000	26⅞	30¼	26¾	30	+3¼
105¼	92	108½	103		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 25	200	105	105½	105	105½	+ ½
59½	40⅜	57¾	48¼	(sh)	820,436	13.40	Royal Dutch, N. Y. shares	$1.73½	Aug. 1, 25	9,100	55	55⅜	54⅜	55	0
42	33	46¾	39½	(sh)	105,575	£2	Shell Transport & T	$1.21	July 25, 25	1,100	46¾	46¾	46⅛	46¼	— ⅜
22½	15¾	28¾	21⅝	(sh)	10,000,000	N.P.	Shell Union Oil Corp	35cQ	Sept. 30, 25	38,600	26	26½	25⅝	26	0
99½	91½	106½	99½	$	20,000,000	$100	do pfd	$1½Q	Nov. 16, 25	1,000	104½	104½	104½	104½	— ¼
24	10¾	26¾	18⅝		7,207,090	10	Simms Petroleum Co	50S.A.	July 1, 25	6,300	23⅞	23⅞	23	23⅛	— ¾
27⅛	15	24⅞	17	(sh)	4,484,450	N.P.	Sinclair Consolidated	.....	May 31, 24	23,900	21¼	21⅝	20¼	20½	—1
90	75	94⅝	78¾	$	18,190,200	$100	do pfd	$2Q	Nov. 16, 25	300	90	90	89½	89½	+ ½
20	17⅜	32⅝	21⅜		20,966,500	25	Skelly Oil Co	.....	.....	22,900	31¾	31½	30⅛	31⅛	0
68⅛	55½	67⅛	51⅞		236,869,225	25	S. O. California	50cQ	Sept. 15, 25	10,800	56⅜	56⅜	54¼	55	—1
42¼	33	47½	38¾		511,631,025	25	S. O. New Jersey	25cQ	Sept. 15, 25	41,400	44	44⅜	42⅞	43⅛	—1⅜
119⅜	115¾	119	116¼		199,972,900	100	do pfd	$1¾Q	Sept. 15, 25	2,000	117	118	116⅜	118	+1
.....	.....	.....	.....		.....	.....	Sun Oil	.....	.....	3,000	40⅛	40½	39½	40	—1¼
8¾	2¾	6¼	2½	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20,20	4,300	2¾	2¾	2½	2¾	— ⅛
45⅜	37¾	53½	42¾	$	164,450,000	$25	The Texas Co	75cQ	Sept. 30, 25	22,100	52⅝	53	52	52⅛	— ⅜
15¼	8	23⅜	10¾		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	10,000	16⅛	16⅜	15¼	15½	— ⅛
.....	.....	36¾	30½	(sh)	2,017,719	N.P.	Tide Water Oil Co	25cQ	Sept. 30, 25	4,900	36	36¼	35⅛	35⅛	— ⅜
.....	.....	101	99½	$	25,059,000	$100	do 5% pfd	$1.25Q	Nov. 16, 25	1,300	99¾	100	99¾	99¾	— ¼
6¼	3¾	5⅞	5½	(sh)	3,742,029	N.P.	Transcontinental Oil Co	.....	.....	28,600	4½	4⅝	4¼	4⅜	— ¼
39	35	45¾	38	$	40,480,800	$25	Union Oil of California	45cQ	Nov. 10, 25	7,700	36⅜	36½	35½	35⅞	— ⅜
132¾	94	134	118		18,262,300	100	Union Tank Car Co	$1½Q	Dec. 1, 25	200	127	127	125½	125½	—1¼
116¾	106¼	117⅝	113¼		12,000,000	100	do pfd	$1¾Q	Dec. 1, 25	500	114⅞	115	114⅞	115	+ ⅛
29⅜	23⅛	31¾	25½	(sh)	490,000	N.P.	White Eagle Oil & Ref	50cQ	Oct 20, 25	3,600	27¾	27⅞	27¼	27⅝	— ⅛

*New High †New Low xEx-dividend Total Sales 1,000,800

Standard Oil Stock Traded In New York Curb Market

1924 High	1924 Low	1925 High	1925 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Dec. 11 Sales	First	High	Low	Last	Chg'e
18¾	14⅜	26¾	17¼	£	3,000,000	£1	Anglo American	60¾cS.A.	May25, 25	600	18⅜	18⅛	17⅝	17⅜	— ⅛
4¾	2	4	2	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	1,800	2	2	2	2	0
16	5	12¾	5	$	10,000,000	$10	do pfd	.....	.....	1,500	3⅜	3¾	3⅜	3½	0
265	155	240½	205		1,000,000	$100	Borne-Scrymser	‡84S.A.	Oct. 15, 25	.....	.....	.....	.....	.....	.....
85½	51	72	53½		10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 25	540	55	55	53½	53½	— ½
52½	47⅜	74⅜	48½		3,000,000	25	Chesebrough Mfg. Co	62½cQ	Sept. 30, 25	200	68½	68½	68½	68½	+ ½
115	112	115	110		1,000,000	100	do pfd	$1¾Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
.....	.....	31⅝	21⅞		34,914,280	$10	Continental Oil (Maine)	25cQ	Sept. 15 25	58,100	25¾	26⅛	24¼	24⅜	—1⅜
20	11¼	17⅝	10⅝		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
149	110¾	158	132		3,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15, 25	140	139	140	139	140	+1½
105	74	96	66		5,000,000	100	Eureka Pipe Line	$1Q	Nov. 2, 25	720	64¾	65¼	62	62	—2½
69¾	52	65	34		16,000,000	100	Galena Signal Oil	.....	June 30, 25	235	35½	37	35½	36¼	— ¾
113	100½	105	100		4,000,000	100	do new pfd	$2Q	Sept. 30, 25	20	98	99¾	98	99¾	+1¾
116	110	114	103		2,000,000	100	do old pfd	$2Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
45¾	34½	79⅞	42½		43,750,000	25	Humble Oil & Ref	30cQ	Oct. 1, 25	20,600	79⅞	79⅞	77	78½	—1
161	120	154½	127		20,000,000	100	Illinois Pipe Line	$6S.A.	June 30, 25	190	132	134¾	132	134	+2
.....	.....	37½	27¼	(sh)	6,491,852	N.P.	Imperial New	25cQ	Dec. 1, 25	24,100	37	37⅜	35½	36¼	— ⅜
100	66	84	57¾	$	5,000,000	50	Indiana Pipe Line	$1Q	Nov. 14, 25	480	60½	61	57¼	58½	—2
24¾	16¾	35⅜	22½	(sh)	7,118,138	N.P.	International Petroleum	25c	Sept. 30, 25	72,900	35	35⅜	33½	33⅜	—1¼
182	122	190	130½	$	188,247,100	100	Magnolia Petroleum	1⅞stk.	Oct. 5, 25	510	187	187	182½	182½	—3
25¾	20⅜	25½	16½		6,362,500	12½	National Transit	25cQ	Sept. 15, 25	1,700	16½	18	16½	18	+ ¾
97	54½	79	50		5,000,000	100	New York Transit	75cQ	Oct. 15, 25	330	52	52	50¼	50¼	—1¾
107½	72	88	73½		4,000,000	100	Northern Pipe Line	$8S.A.	July 1, 25	150	80¼	80¼	73½	74½	—5¾
79½	55	75	60¼		60,000,000	25	Ohio Oil Co	50cQ	Sept. 30, 25	6,200	64	64¾	63½	63½	— ½
45	27	44½	20		10,000,000	25	Penn. Mex. Fuel	50c	May 21, 25	500	23½	23½	22⅞	22⅞	— ⅜
54¾	49½	65½	45¾		60,000,000	25	Prairie O. & G	.....	July 31, 25	8,900	56⅜	56⅝	53½	54½	—2
111	100	129¾	106		81,000,000	100	Prairie Pipe Line	$2Q	Oct. 31, 25	770	126½	127	126	126¾	— ¼
230	175	259	200		4,000,000	100	Solar Refining Co	$5S.A.	June 20, 25	20	212	214	212	214	—1
100	80½	103	29		10,000,000	100	Southern Pipe Line Co	$1Q	Dec. 1, 25	550	68¼	68¼	65½	66	—2¼
171	117	197	139		20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	290	170	171	167½	167½	—3½
89	68	84	53		3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Oct. 1, 25	70	57½	57½	54½	54½	—2½
68⅜	54¼	70	59½		223,756,258	25	S. O. Indiana	62½cQ	Sept. 15, 25	40,200	66¼	66⅝	65⅜	66	— ⅜
50¼	32½	46	30⅝		8,000,000	25	S. O. Kansas	.....	June 16, 24	4,500	33¾	34¾	33½	34⅜	+ ⅜
121¼	101	137	114¾		16,864,434	25	S. O. Kentucky	$1Q	Sept. 30, 25	2,000	134⅞	134⅞	133¾	134⅜	+ ⅜
202	198	270	231		3,000,000	100	S. O. Nebraska	$5S.A.	June 20, 25	50	243	243	240	240	—4
48	37¾	48⅝	40		227,535,300	25	S. O. New York	35cQ	Sept. 15, 25	16,400	46¾	46⅞	45¾	45⅞	— ⅜
377½	275	369	338		14,000,000	100	S. O. Ohio	$2½Q	Oct. 1, 25	110	366	366½	364	365	—1
136	115	123	116		7,000,000	100	do pfd	$1¾Q	Dec. 1, 25	10	119¾	119¾	119¾	119¾	+1¾
81	20	27	12½		1,722,931	25	Swan-Finch Oil Corp	.....	Nov. 1, 19	560	19¼	25	19¼	24	+4¾
85½	56½	105½	80¾		61,919,950	25	Vacuum Oil Co	‡50cQ	Sept. 19, 25	6,900	101⅜	102½	101	102	+ ½
30	25	35	30		100,000	10	Washington Oil Co	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19